OCT. 10 1958

PETROLEUM WEEK

A McGRAW-HILL PUBLICATION

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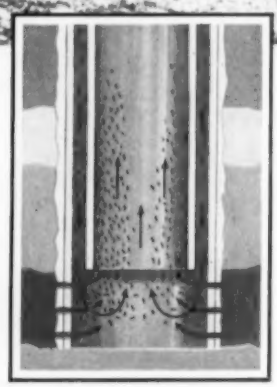

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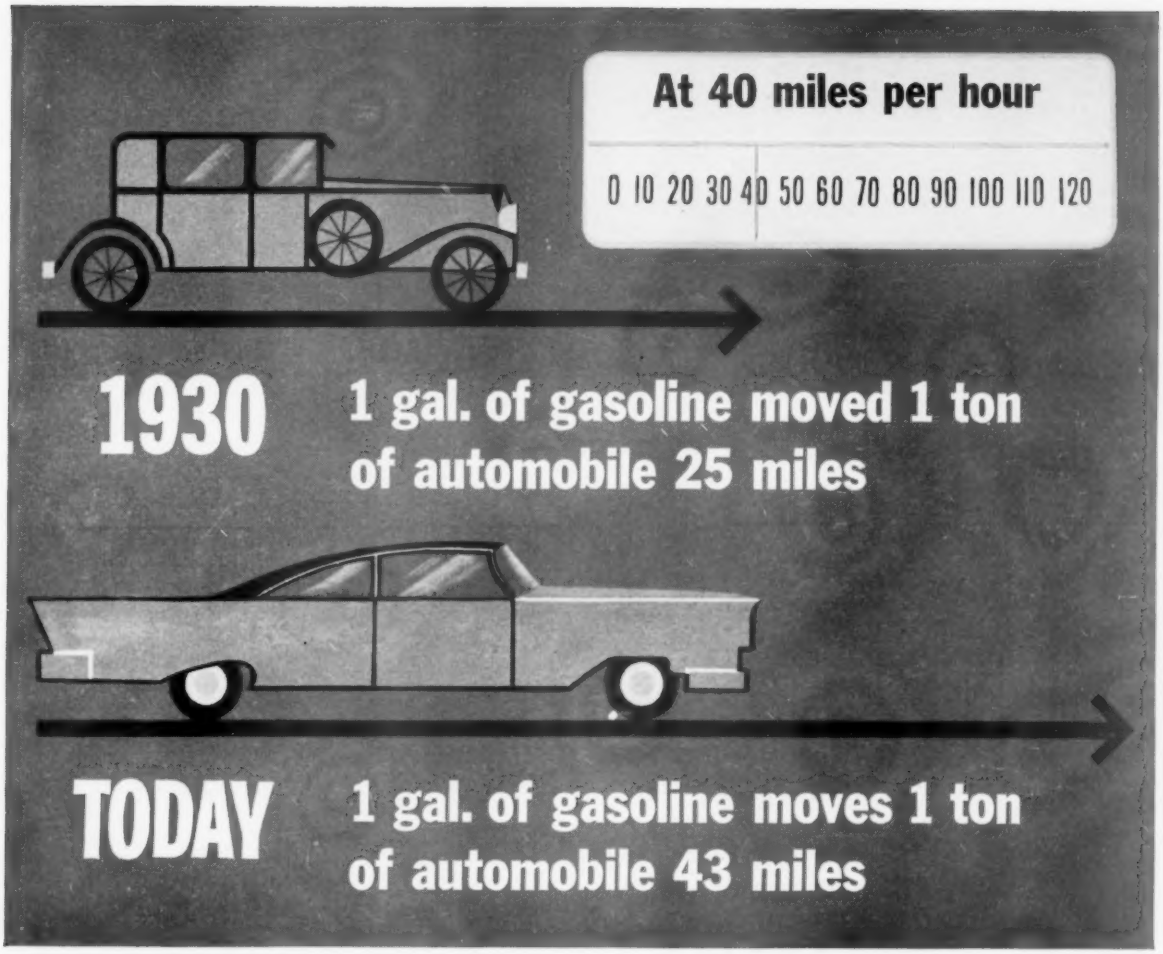
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Progress report on the ton-mile story

Last April a new approach for measuring gasoline progress was presented to the Oil Industry in a study prepared by Ethyl Corporation. This yardstick is ton-miles per gallon—the number of miles that one gallon of gasoline can move one ton of automobile.

Already, oil companies have distributed over a million copies of an article explaining the value of modern gasoline to employees and dealers.

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Other companies, in meetings for dealers and others in the Industry, have used Ethyl slide films and similar visual aids to explain the ton-mile concept.

Many of these same companies are incorporating the ton-mile story into their promotion of Oil Progress Week; to publicize the ability of today's gasolines to do 70 per cent more work than 1930 fuels at a saving of 18 per cent.

The full study has been published under the title of "A New Concept of Gasoline Progress" and also in popular form as "It's the Work That Counts."

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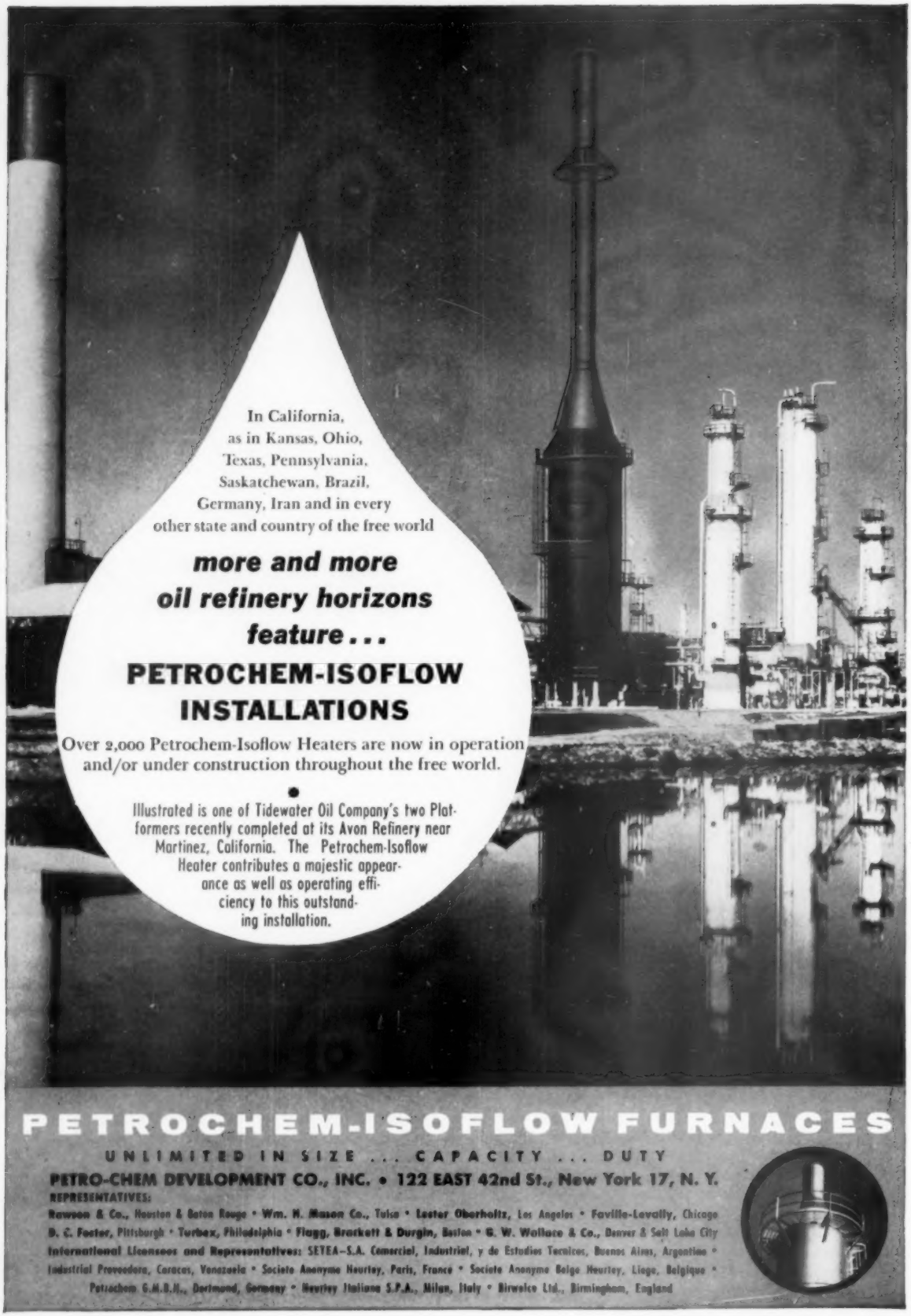
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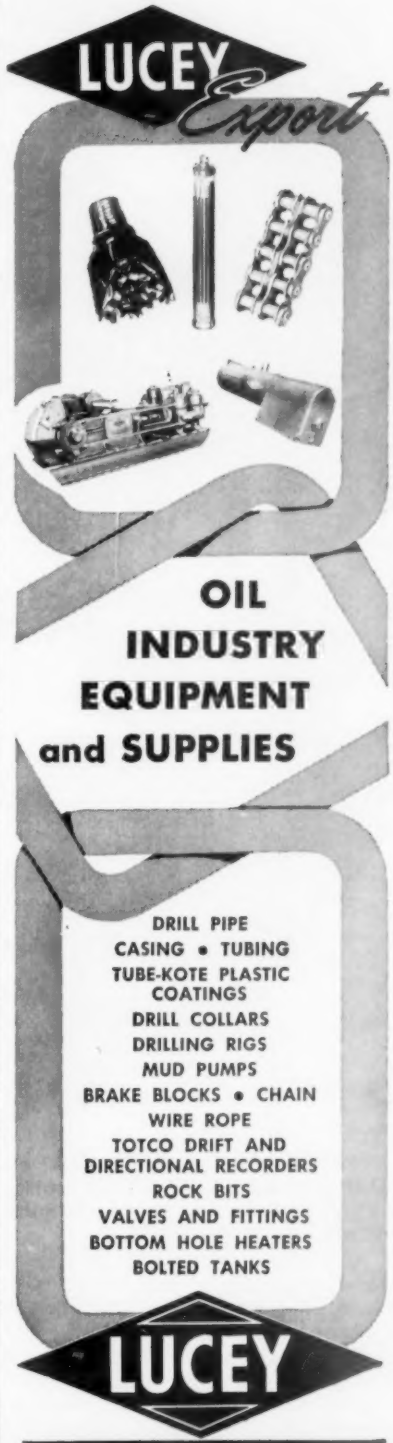

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TPA 304

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60-Second Summary / WHAT'S HAPPENING IN OIL

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October 10, 1958

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Oil firms are becoming less timid on controversial issues. Gulf Oil Corp.'s decision to "get into politics" is just one example. And more are using company publications to express their views. . . . p. 15

•

There is a new face in the Canadian refining picture: British Petroleum Co. BP will build a refinery at Montreal as part of its "invasion" of North America. . . . p. 32

•

Communications are often a frustrating problem for companies operating overseas. Use of radio to provide fast, flexible, and reliable service is growing. . . . p. 13

•

The outlook for winter heating-oil demand appears bright enough to pull the industry out of its doldrums. With only normally cold weather, demand is expected to rise sharply. Supply is relatively tight, and this could improve prices. . . . p. 11

•

Oil heat marketers are showing signs of competitive confidence. Instead of a holding action against natural gas, they are talking boldly of counterattacks. . . . p. 42

•

Don't fail to note progress being made in drilling and production techniques. This includes advances in in-situ combustion, water-driven carbon dioxide floods, waterflooding, and improved water shutoffs for air/gas drilling. . . . p. 22

•

A "radically different" offshore drilling unit has been designed. It hasn't been built yet—and may never be—but the plans suggest interesting possibilities. . . . p. 21

•

Guatemala will get its first big exploratory push with five wildcats. Two U.S. majors and one independent will drill the tests in Izabal and Peten departments. . . . p. 44

•

An outbreak of price wars has lowered Midwest gasoline prices 1¢ to 4¢ a gal. The cuts are due to easing demand, surplus stocks, and a fight for gallonage. . . . p. 12

•

The Maritime Administration would like to see an atomic submarine tanker built, if funds could be raised. But Congress and private interests appear reluctant now. . . . p. 36

•

The Supreme Court has now set a date for hearing the Memphis case appeal: Oct. 20. But the offshore boundary case has been delayed. . . . p. 18

Up to the Minute / SIGNIFICANT LATE NEWS

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October 10, 1958

Eastern States has offered a plan for cutting imports, crude and finished products sharply. It has suggested that net imports of both be limited to 9.09% of domestic demand. (So far this year, total imports have amounted to 18.1% of domestic demand.) Under the proposal, product imports would not be permitted to exceed 38.5% of the total allocation for crude and products—compared with 41.7% to date this year.

Eastern States is highly critical of the plan proposed by Matthew V. Carson, the imports boss. The firm terms it "unrealistic."

•

Charges of fixing gasoline prices in the South Bend (Ind.) area have been renewed against 13 oil firms. An earlier indictment had been dropped after complaints that jurors were selected illegally.

The firms charged this week are: Indiana Standard, Socony Mobil, Gulf, Sun, Texaco, Central West Oil Co. of Pennsylvania, Ohio Oil, Phillips, Shell, Cities Service, Tornado Oil Co. of Indiana, Hunson Oil Co. of Illinois, and Pacer Oil Co. of Indiana.

•

Asphalt producers are confident that the military will now approve use of asphalt for air field runways. They feel that recent military tests proved that asphalt can take the heavy pounding of bomber landings.

The military hasn't announced any decision yet. But it is expected to submit the results of the tests to the House Armed Services Committee in November.

•

Selective price cutting continues to be the trend for crude. Humble Oil & Refining Co. this week cut some postings in upper Gulf Coast fields by 10¢ a bbl. The adjustments involve about 17,000 b/d, most of which is produced by Humble. The company said the cuts were made to bring prices in line with those of other buyers.

The Texas Co. trimmed 7¢ a bbl. from its postings for about 5,000 b/d of Sherman field crude in North Texas. The cut was made, the company said, to be competitive with lower prices posted in Oklahoma (page 12). Sinclair Crude Oil Co. previously cut postings in two North Texas counties by varying amounts, ranging from 2¢ to 34¢ a bbl., a move it attributed to "lessened refinery realizations" on crude below 35-gravity—the gravities cut the sharpest.

•

Drilling is continuing in the world's deepest test. The Phillips No. 1 EE, in Pecos County, Tex., moved past 25,120 ft. this week. It had topped the Ellenburger—its objective—at 24,947 ft.

•

A new industry group to promote "sound conservation laws" will meet soon to draft a plan of action. The group, the Oil Industry Conservation Forum, is composed of representatives from majors and independents. E. B. Miller is chairman, and Jake L. Hamon is chairman of the steering committee.

Congrats and $25 to Mr. D. J. SUGGS, Republic Natural Gas Co., Tipton Bldg., Pauls Valley, Okla., for this quip.

Joe Roughneck is top kick of the industry . . and plenty tough in his pipe demands. He likes the plus factors he gets in using Lone Star electric weld pipe: convenient source of dependable supply, overnight delivery and rigid quality control through exacting multiple tests.

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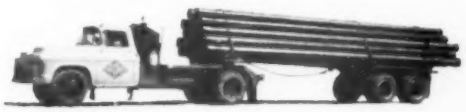

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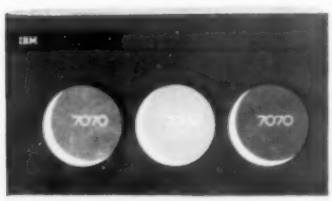

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IBM® DATA PROCESSING

In Coatings, Watch Epoxy

New types of protective materials for prevention of external pipe corrosion—as well as new additions to old types—are vying for the attention of pipeline builders.

Electrolytic corrosion, caused by currents emitted from pipe metal, is the chief enemy of engineers fighting external pipe corrosion. This corrosion can be counteracted by halting the outflow of electricity. But there's only one way to do that—by enclosing the pipe in a material that will not leave even minute parts of the pipe exposed, regardless of time and soil conditions.

Although the protective coverings developed for pipe to date have many important advantages, no one has come up with the perfect material—the one that will eliminate such corrosion completely. (The "perfect material" would differ according to the conditions of each line.)

Perhaps no one will ever come up with the perfect covering, but manufacturers are trying.

Epoxy resin coatings are attracting a good deal of interest as external-corrosion preventives.

Epoxy resin coatings are made from petroleum-derived materials. They're said to combine into one package many of the individual advantages of other coatings.

One industry representative whose job it is to keep tabs on coating developments recently told PETROLEUM WEEK, "Within the next year or two, there will be marked improvement in epoxy resins [coatings], which could enable them to replace some present hot-enamel-type coatings."

Coast Paint & Lacquer Co. came out with one late last year (PW—Dec.20'57,p46). The coating, applied hot, is said to be especially fast-drying.

Coast is one of the 11 associated companies called Copon Associates. The other companies, spread around the country, are now either already marketing, or getting ready to market, the epoxy coating Coast developed last year.

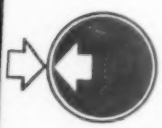
Pittsburgh Coke & Chemical Co., which has marketed a cold-applied similar coating, "Tarset," for other industrial uses for a few years, is now making it available for pipeline application.

Pitt Chem's entry into the field of cold-applied epoxy resin pipeline coatings must certainly be taken as a sign of the times, because the company has for years been marketing a hot enamel coating. Now "Tarset" is moving into direct competition with the older Pitt Chem coating product.

"Tarset," a coal tar epoxy resin which provides protection in a temperature range from —30F to 400F, was recently applied on one system in Venezuela and is now ready for the U. S. market.

Other companies are known to be in experimental stages with similar epoxy type coatings.

Today, epoxy resins are rapidly growing as the base for protective pipeline coatings. Why? Because they are so easy to apply, efficient in operation, and economical across the board. Epoxy resins bring lower costs in material, time, and maintenance.



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Heating Demand Could Run High

The oil industry faces a promising six-month heating season, after marking time demand-wise for more than a year.

Even the most conservative forecasters anticipate a sharp rise in heating oil demand between now and the end of the year.

The Bureau of Mines, which traditionally is more cautious than most oil company economists in predicting the future, looks for a 7.4% rise over last year in total fourth-quarter demand for distillates (including kerosine).

Some oil-company forecasters now talk of a possible 10% gain in total distillates demand in the fourth quarter, and a 5% to 6% gain for the full heating season through next March.

With such a rise, total demand for distillates would average 2,937,000 b/d. The average of 2,784,000 b/d during the 1957-58 heating season was 1% under the comparable 1956-57 period.

A lot of the optimism for heating oil demand depends on the weather —but the estimates of a strong winter demand are based on merely normally cold weather. Lower-than-normal temperatures would boost demand even further.

In the fourth quarter of last year, the weather over the nation averaged much milder than normal. And total demand for distillates in that three-month period just barely kept pace with a year earlier. The latter period had a relatively high total demand, due to emergency exports to Europe.

Even if the weather between now and the end of 1958 is only "normally" cold, some economists say, it would mean a 14% gain over last year in the number of degree days, and thus would account for a substantial gain in demand.

For the remaining three months of the heating season—January through March—the estimates are for about a 3% gain in demand over the like 1958 period, when winter temperatures were normally cold.

The basis for predicting such a gain in the first three months of 1959, assuming "normal" temperatures, is the growth in the number of heating oil customers.

Another boost for distillates demand is expected to come from an upturn in business activity.

Petroleum demand has barely held its own during the business recession, when a lower level of business activity hit both industrial demand and "consumer" demand for petroleum products.

For the year to date, total oil demand is down 3.4%, while domestic demand is showing a bare 1% gain.

Gasoline demand during the three summer months showed no gain over the 1957 summer.

Supply-wise, the outlook is optimistic also, with current distillates inventories 21-million bbl. under last year.

Distillates inventories have been tight since the end of the last heating season in March.

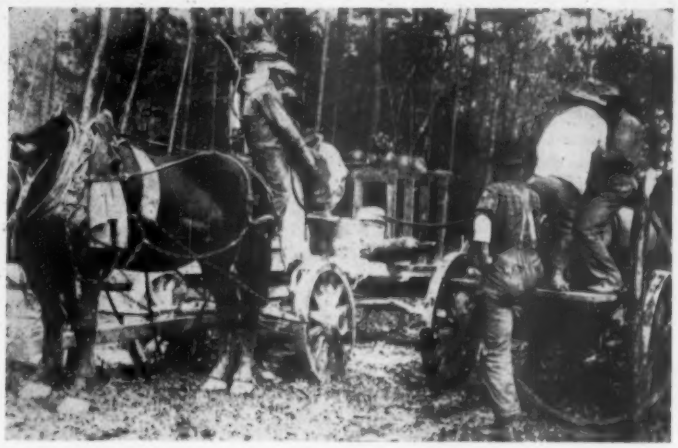
With over-all inventories high at the start of 1958, crude production and refinery runs were held down during most of the year. And refinery yield of distillates so far this year has been below 1957.

The outlook for the remainder of 1958 indicates that refinery runs will be held fairly tight, due to low crude stocks, to restrictions on domestic production by state regulatory agencies, and to the voluntary controls on crude imports.

Indications are that refinery runs in October will not exceed 7,650,000 b/d. And barring sharp increases in domestic crude production in November and December, runs in all of the fourth quarter may be limited to about 7,850,000 b/d.

One result of the relatively tight inventory position has been a sharp

Oil Man's Album



One Way to Give a Pipeline Some Horsepower

It may have been a plodding approach, but that is how this crew transported its welding equipment on a pipeline construction job back in 1926. The project was Magnolia Pipe Line Co.'s 8-in. line between Beaumont and Eldorado, Tex. Evidently the team and wagon both held up, for the job got completed.

(No. 20 in a Petroleum Week series).

step-up in distillates imports, a move that could be beneficial to the industry in the long run.

In the past four months, imports of finished distillates have averaged 39,250 b/d, up 62% over the 1957 average.

Preliminary data indicate that distillates imports in September hit a new high of nearly 50,000 b/d, almost all of which was imported to the East Coast.

Because of surplus gasoline stocks, distillates imports now reduce the need for a step-up in refinery runs, a move that would mean more motor fuel going to storage.

Some economists look for a sharp rise in distillates imports over the next six months, particularly after distillates stocks start to decline seasonally in early November.

But the rate of distillates imports is apparently one cause of continued low heating oil prices on the U.S. Gulf—the primary market.

Despite the tight inventory position of distillates, prices quoted for cargo lots by Gulf Coast refiners are below a year ago.

No. 2 heating oil is offered as low as 8⅝¢ a gal., compared with 9¢ a gal. a year ago.

But most observers don't expect the price of No. 2 oil to continue that low for long.

More Import Changes Proposed

The government's proposed new import plan may have to be altered considerably if it is to gain solid support.

That is becoming certain as the deadline approaches (next Monday) on the invitation to interested parties to comment on the proposal.

The basic plan—submitted to the industry by Matthew V. Carson, the imports administrator, early in September (PW—Sep.12'58,p11)—would limit imports of crude and unfinished oils east of the Rockies to 10.1% of total demand. Individual allocations would be based on a percentage of refinery runs.

The sharpest criticism made public so far has come from the larger importers, who strongly oppose the change to a refinery run basis for allocations from the "historical" pattern of previous imports.

Standard Oil Co. of California is the latest of the larger importers to attack the shift in the method of allocation.

Generally, these companies argue that some allowance should be made for the historical pattern of imports as well as for the risks that have been taken to develop overseas production.

Standard of California recommended a "compromise" method that would call for allocation partly on a historical basis; partly on a run basis.

The company proposed that half of the total import "allowable" for Districts 1-4 be allocated individually to those districts on a historical basis, with the districts that have had the highest imports receiving proportionally the largest share.

Allocation of that 50% would be made to companies within each district on the basis of refinery runs.

The remaining half of the total allocation would be distributed to all refiners on the basis of their historical importing position.

Most of the smaller refiners whose comments have been made public generally approve of the over-all plan, but some want the effective dates of allocations advanced.

Ashland Oil & Refining Co., for one, proposes that the plan should become effective no later than next Jan. 1, rather than after the transition period proposed by Carson. The government's method would gradually reduce quotas of large importers and increase those of small importers during 1959. The real effective date of the new plan would be Jan. 1, 1960.

Sunray Mid-Continent Oil Co. proposed that the base period for the formula that measures individual allocations for the second half of 1959 be changed from the 12 months ending Mar. 31, 1959, to the period ending Dec. 31, 1958.

"This change," W. C. Whaley, president, said, "would tend to minimize the opportunity for anyone to seriously attempt to take advantage of the situation by individually increasing runs in an excessive amount."

One proposed change would provide a bonus import allocation to companies "initiating domestic production of oil from oil shale, coal, gilsonite, or the like petroleum supplements."

That was offered by Cameron & Jones, consulting engineers of Denver.

The proposed bonus would be equal to 50% of design capacity of a planned "supplementary oil production facility" until production commenced, and a bonus equal to total production from such a "facility" afterwards.

Price Cuts Hit Gasoline, Crude

Retail gasoline prices broke from 1¢ to 4¢ a gal. over wide areas of the Midwest this week—the result of easing demand, surplus inventories, and a fight for gallonage.

The lower prices are being offered by major-brand dealers as well as private-brand stations, and have affected tank wagon and retail prices.

The affected area extends from Detroit to as far west as Kansas City, and includes all major cities in that region.

James Gardner, president of the Lake County (Ind.) Gasoline Retailers Assn., says he can recall no instance in the past 20 years when there was a general cut of the "current depth."

Some marketers predict that the current price cuts may be only the beginning of a period of unsettled retail markets that could last all winter.

Vic Postillion, executive director of the Gasoline Retailers Assn. of Metropolitan Chicago, says the current situation is "fluid" and one in which prices are difficult to follow because of "undercover discounts" given by many dealers to hold customers.

A 3¢-a-gal. cut in tank wagon prices in Chicago is "necessary to put all dealers on an equal competitive footing," Postillion comments.

Many major-brand dealers in Chicago are posting "2¢ off" signs despite the absence of a cut so far in tank wagon prices. Further cuts by private-brand dealers in the Chicago metropolitan area have widened the spread between major and private brands to 5¢ a gal.

In Oklahoma, prices for sweet crude were cut by the two largest buyers—Sunray Mid-Continent Oil Co. and Kerr-McGee Oil Industries, Inc.

The two companies, effective Oct. 3, lowered their postings for sweet Oklahoma oil by 14¢ to 31¢ a bbl.

The 14¢ cut applied to 40-gravity crude, making the top posting $3.01, or 1¢ a bbl. under the posting for 40-gravity West Texas sour oil.

The price differential for Oklahoma sweet crude below 36-gravity was increased from 2¢ per degree to 3¢, making the posting for below 20-gravity crude $2.42 a bbl., off 31¢.

Several large purchasers said they were studying the move.

Sunray said it "found it difficult to retain its customers or to obtain new customers because of the availability of cheaper crude elsewhere."

TO PROVIDE A LINK in oil communications overseas, this worker gets set to do some telephone line repair.

FOR CONTROL, a permanent radio system helps to operate this Trans-Arabian Pipe Line Co. pumping unit.

FOR MOBILITY, a radio comes in handy in connecting an isolated activity with its base of operations.

Overseas Problem: Getting the Word

It may seem strange in an electronic era, but the establishment of a reliable system of communications is still a major problem for oil firms operating overseas.

The problem is compounded by the fact that poor communications often hinder efficiency in all other operations.

Even the commonplace telephone is a cause of frustration in many areas.

Commercial telephone lines are often crowded because of inadequate facilities, making it necessary in some instances to make appointments for use of the telephone. And, in some cases, the line to a certain area may be open only an hour or two daily. This often results in delaying a message for a day—and such delays can have dire results.

Too, there are frequent situations where the nearest telephone or telegraph line is miles away from an operation. This necessitates a daily messenger in order to keep in touch with the "outside" world.

The problem really gets binding when an oil activity is centered in an area—and there are many of them—where no communications facilities exist at all.

Oil companies sometimes build their own telephone networks, but they run into problems of time, cost, and weather.

In heavily concentrated areas around a permanent camp, or a refinery, installing telephone lines is comparatively simple. But this does not solve the problem of reaching rig and exploration crews—the ones who most need a good communications system.

Too, the weather plays havoc with lines, particularly those reaching considerable distances.

For example, Arabian American Oil Co. found that constant repair was needed because of the corrosive action of heat, humidity, and an alkaline atmosphere. This stepped-up corrosion can knock out a line in three months or less.

Sandblasting desert winds shorten the life of drop lines and create "sand static" on open wires.

The problem can be even more basic. In the coastal areas of Saudi Arabia, telephone post-hole diggers run into salt water a foot below the surface. To provide footing for a pole, they have to sink old oil drums.

Such difficulties cause companies to look for simpler means of getting their messages through.

More and more firms are turning to radio—or improving their old radio systems—as the best solution to communications problems.

They are finding, generally, that radio offers more flexibility and is

usually more dependable than other means of communications in many areas.

Early this month, Sinclair Venezuelan Oil Co. put into service seven new VHF (very high frequency) sets to replace its old radio system, which was frequently being blotted out by weather, and which was limited to a single band.

Six of the sets are at permanent installations and one is used at wildcat locations. Future plans call for radio-equipped cars.

National Supply Co. gets maximum communications flexibility in Venezuela from a combination of two systems: three sets for short distances; four sets for long-range transmission.

This ties all of its stores into its central office in Maracaibo, which in turn is linked to its New York City office by telephone and mail.

Continental-Emsco Co. is introducing VHF radios soon to link its three stores and main office in Venezuela.

Aramco, with its massive operation, depends heavily on radios.

Three radio systems—VHF, long-range, and VHF push-to-talk sets—are used by Aramco.

In the main oil towns of Ras Tanura and Dhahran, and such oil stations as Abqaiq and Udhailiyah, dial telephone exchanges are tied together by VHF multichannel trunks.

In addition, Aramco has teletypewriter service via a VHF system between Dhahran and Qaisumah, and across the Arabian Peninsula to its office at Jiddah, where Saudi Arabia's oil directorate is located.

Aramco's long-range radio system is used to link together towns, exploration parties, and temporary camps.

Repair crews, pipeline riders, and gas-oil separation plant personnel use the push-to-talk radios.

Ten passenger cars have been equipped with VHF radios at the Stanlow refinery of Shell Refining Co., Ltd. at Ellesmere Port, Cheshire, England. Thus the whole refinery area—2,000 acres—is blanketed with radio coverage through the patroling cars. A central office acts as dispatcher, sending the cars on missions through the plant area.

The savings have been considerable in mileage and time. And, too, the mobility provided is more insurance against fire.

Radios are further enhancing their popularity abroad through a budding use of remote control.

Aramco currently is trying out remote control at one of its gas-oil separation plants. And it has remote control over a pumping station at Qatif on its pipeline link to the Trans-Arabian Pipe Line.

Also, six auxiliary pumping units on the Tapline are remote-controlled.

Although still not in universal use, remote control offers many advantages to the foreign operator. It goes a long way toward solving the problems brought about by the scattered operations so common in overseas operation.

There is no one factor that determines the type of communications used abroad.

Naturally cost ranks high on the list. But even its importance is relative, and fluctuates according to the size of the operation, its necessity, and how far the company feels it can go in spending on communications.

A general yardstick for determining when a company should have its own communications equipment seems to be the size of its operations. The bigger the holdings, the more it becomes feasible for a firm to operate its own facilities.

Foreign government restrictions pose no great problem, since it usually is just a matter of time and the fee to get the permit and assigned frequencies. What's more, there is much less radio traffic abroad than in the U.S., so interference is negligible.

So far as communications between a U.S. firm's home office and its overseas operations are concerned, there is little problem other than keeping an eye on cost.

Telephone service is generally good, but too-frequent overseas calls can skyrocket a firm's telephone bill.

Mail—if it is air mail—frequently is faster than one would expect, although naturally it depends on schedules and on weather.

A National Supply spokesman says his firm gets second-morning delivery to or from Italy and Buenos Aires, and next-day delivery to or from Caracas and England.

Only bulky mail, such as sales literature and catalogs, is sent by boat.

Cabled messages have the advantage of being fast while at the same time providing a written record. But sometimes an effort to save words by writing in "cablese" creates confusion.

One executive, commenting on the communications problem as a whole, says part of the blame for poor communications has to be placed on the user rather than the system used. "Perhaps what we need most," he says, "is a short course in basic English."

One Union Seeks a Showdown

There has been little action on the bargaining front this year. Now an independent union in New Jersey has struck in an effort to make a breakthrough.

A strike at Socony-Mobil's refinery at Paulsboro, N.J., may provide a testing ground for efforts by oil unions to get a wage hike this year.

The refinery was closed down last Friday night in orderly fashion as the Independent Oil Workers Union of Paulsboro pulled out its members in an effort to force a settlement on its demand for a 7.5% wage hike.

The union has taken the position that a wage increase is not justified. And it recently issued a statement pointing out that the Paulsboro refinery was already in the "high cost" operating bracket by comparison with other Socony refineries.

Company-union negotiations made no progress at all during the 60 days the contract was reopened for wage talks. Nor were the two any nearer agreement when an additional 15-day extension had elapsed.

The company reportedly rejected a unique union proposal that would have tied a wage boost at Paulsboro to wage hikes—if any—granted elsewhere.

The union proposal was this: The company would meet the union's wage demand by putting the amount of the hike in escrow. If, after 90 days, there had been no settlement at other plants in the industry, the company would withdraw the escrow fund and the union would drop its wage demands.

If, however, a wage hike were granted elswhere, the escrow fund would be used to meet it retroactively.

The Paulsboro union has been in touch with other unions in an effort to get them to act now, too, in order to give the strike more force.

It has told other unions that someone should take the lead in trying to establish a wage hike pattern.

Thus far, the union has had no assurances that other unions will follow suit.

Oil's House Organs Speak More Boldly

Worried by a seeming lack of understanding of oil's problems even by oil employees, some firms are turning to company publications to explain the facts.

Oil companies are making increasing use of company publications—commonly called house organs—to express their views on current and controversial topics.

Observers have noted a gradual trend in this direction, particularly during the past two years. Until that time, many house organs stuck to "safe" subjects such as a new cafeteria for employees or a feature story about a company official.

Now, however, it is not uncommon for a company magazine to handle "touchy" issues.

The new trend is an indication of the more important role house organs are being given.

The development apparently is based primarily on these premises:

- Employees need to know and understand the major policies of the company for which they work.
- Employees provide a company with a prime avenue of approach to public relations in general.
- In house organs, a company can present its views exactly, without being subject to the changes and interpretations often given their statements by the general press.

Gulf Oil Corp.'s recent announcement that it plans to take an active interest in practical politics was a striking example of the new role of the house organ.

The company's new policy was spelled out in its "Orange Disc" in the form of a letter to employees and stockholders. Subsequently, the policy statement was released to the general press and to the industry press.

In the letter, signed by Archie D. Gray, senior vice-president, Gulf explained that most American corporations have tended to ignore politics. Meanwhile, he said, labor unions have been extremely active in this field.

"If we are to survive," Gray said, "labor's political power must now be opposed by a matching force."

He explained that Gulf plans to keep tabs on congressmen, and plans to relay this information to its employees and stockholders. Apparently, Gulf intends to make continued use of its company publications throughout its new program.

General Petroleum Corp. is also using its house organ to speak out strongly, on a political issue in California.

It is challenging labor's backing of a taxation proposal that will be on the state ballot in the November election.

For the most part, house organs are being used to explain, rather than to defend or attack.

Several firms this year used their company publications to tell their employees of "recession" moves the company was making—and to explain why the company was doing so.

In some instances, such stories were used to make it plain that the company did not feel that any general wage hikes were justified this year.

Often, the aim of a house organ article is to give employees information on oil subjects appearing frequently in the daily press.

These articles cover such subjects as gasoline prices, depletion, and anti-trust suits.

One company magazine this year ran a lengthy article entitled "What Price Gasoline?" in which it discussed the factors and methods involved in arriving at gasoline prices.

Another ran a story to answer the question "Are Oil Companies Too Big?" In this, it discussed oil company size in the context of the American economy as a whole, pointing out that the bigger a job, the bigger the organization needed to do it.

The depletion provision—what it is and how it works—has been the subject of several company magazine stories as attacks on the provision continue in Congress.

The "Alexandria case" and imports controls have also prompted several firms to use their own magazines to explain their stand.

One company official stated: "If we let other publications shape the views of our own employees, we have no one but ourselves to blame."

Zeppa Is Elected AAODC President

Joseph Zeppa, president of Delta Drilling Co., is the new president of the American Assn. of Oilwell Drilling Contractors. He was elected last week to succeed J. U. Teague, of Houston.

It was also announced at the AAODC meeting that Brad Mills is retiring as the association's executive vice-president.

Mills, who has held that post for 18 years, wants to retire as soon after Jan. 1 as a successor can be chosen. Teague said Mills would continue to hold an active position in an advisory capacity.

McCollum, Bass Get Oil Service Awards

L. F. McCollum and Harry W. Bass have been presented the Texas Mid-Continent Oil & Gas Assn.'s distinguished awards for 1958.

The presentations were made at the association's annual meeting this week in Dallas. The awards are given each year to an independent producer and to a major company executive for service to the petroleum industry.

McCollum is president of Continental Oil Co., a post he has held since 1947.

Bass is an independent oil and gas producer, long active in Texas oil circles. He is a former president of Texas Mid-Continent.

L. F. McCollum

H. W. Bass

What's New / IN THE INDUSTRY

Ford Motor Co. is emphasizing the fuel economy of its new cars. All its standard engines are designed to use regular-grade gasoline. Only the extra-cost optional engine will need premium. The Ford move is another indication of a Detroit trend to stress operational economy—apparently to offset the rise of foreign car sales.

Ford claims that fewer oil changes will be needed. It says a new oil filter and improved crankcase ventilation enable the company to recommend an oil change only every 4,000 mi., instead of every 2,000 mi.

•

Now would be the "worst of all possible times" to impose further tax burdens on U.S. companies producing abroad, T. S. Petersen, president of Standard Oil Co. of California, said in Chicago last week. There is an obvious need—in the face of rising domestic demand—to encourage foreign oil investments, he told the Executives Club.

Percentage depletion deduction for income taxes is intended to stimulate exploration and development of oil resources, he noted. "I submit that it is very nearly as important that the U.S. develop such resources abroad as at home," he said, in answer to recent congressional attacks on the depletion deductions permitted to U.S. producers abroad.

•

California tar sands can yield oil "considerably" below the price of crude of similar quality, according to Glenn E. Nielson, president of Husky Oil Co. Tests by the company with a modification of the Swedish "Lins" process at Santa Cruz, he said, is producing 13 b/d of tar sands oil.

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The Texas Mid-Continent Oil & Gas Assn. is absorbing all activities of the Oil Information Committee in Texas. The association has had the responsibility for the industry's legislative activities in the state.

Charles E. Simons, executive vice-president of Texas Mid-Continent, says the information activities will be operated as a standing committee. "It will be an integrated operation," he said, "one operation, one direction." The enlarged activity, he told the association's annual meeting in Dallas this week, will be financed by a "separate supplemental budget."

•

Standard Oil Co. of California was the only company to make an offer to swap Navy special fuel oil for Elk Hills crude. It proposed to furnish the Navy 4,035,000 bbl. of fuel oil (at a minimum rate of 300,000 bbl. monthly) in exchange for 3-million bbl. of Elk Hills crude (to be supplied at a rate of 400,000 bbl. monthly). Several purchasers pay the Navy $2.36 a bbl. for Elk Hills crude on a bid basis. The Navy pays $1.80 for Navy special fuel oil.

•

Compliance requirements under the voluntary imports plan have been revised to correct "inequities," due to the revamping of individual quotas last April. Some companies had reduced their imports in the first three months of 1958, planning to increase them later. But reductions in individual quotas in April placed some of those importers in "technical" noncompliance. Now those companies will be allowed to average out crude imports either from Apr. 1 through Dec. 31, or from July 1 through Dec. 31 to meet the compliance requirements.

INSIDE *Slant*

WHY NOT HEARINGS?

Objections by various segments and individual members of the industry to the proposed imports plan geared to refinery operations is bringing agitation for hearings.

Open hearings on such subjects are not new. Imports Administrator Carson recognized this procedure when District 5 (the West Coast) was brought into the present program.

At that time, he asked for submission of briefs and then gave all interested parties an opportunity to be heard.

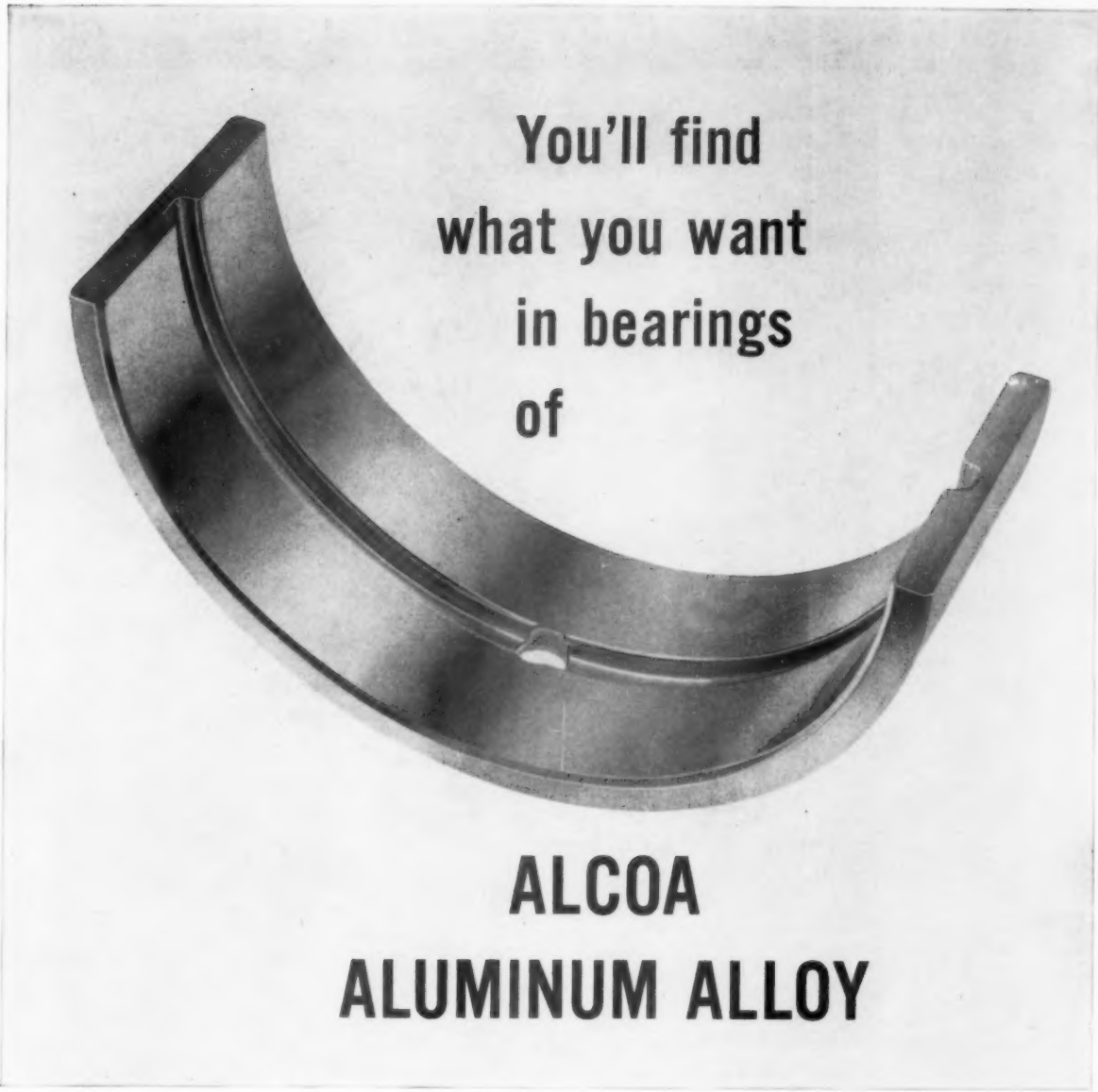
In fact, the Administrative Procedure Act—notice and hearing—passed by Congress in 1956, was designed to satisfy the due process clause of the Constitution insofar as actions of administrators and administrative bodies are concerned.

In the field of administrative law, which has been most highly developed under state regulatory authorities, a valid adjudicatory order usually requires notice and full hearings.

Much less criticism is lodged against these state agencies than is leveled at comparable federal agencies.

An order or rule of such sweeping nature as the proposed imports plan obviously requires that the opportunity be given for oral presentations.

LeRoy Menzing
EDITOR



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AT-A-GLANCE
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PETROLEUM WEEK

Retail gasoline dealers are looking to Washington in their drive against commission stations. Leaders of dealer organizations say frankly they want to halt the increasing use of such stations. First step in the campaign was a complaint to the Justice Dept. against Esso Standard Oil Co.'s service station activities in Virginia. The Virginia Gasoline Retailers Assn. and the National Congress of Petroleum Retailers claim Virginia dealers are being forced to convert to a commission station status as a step toward control of area prices. Esso had denied the complaint, but the Justice Dept. will investigate.

The dealers also may seek a hearing before a congressional group, probably the House small business subcommittee of Rep. James Roosevelt (D., Calif.). Roosevelt, who held extensive marketing hearings last year, has already indicated he wants to check up on the situation next year. The dealers are expected to press the commission station squabble. They claim the conversion of lessee stations to commission outlets allows a company to fix gasoline prices in violation of the Sherman Antitrust Act. Although some antitrust authorities doubt the strength of the dealers' argument, there could be a strong fight over the issue.

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Coal-state senators are protesting the new oil imports plan. Sens. Thruston B. Morton (R., Ky.), John D. Hoblitzell (R., W. Va.), and Chapman Revercomb (R., W. Va.) all have written the Secretary of Commerce against adoption of the so-called Carson plan. The senators claim the new program would ignore a "congressional mandate" for tighter restrictions on imports. Sen. James E. Murray (D., Mont.) also has gone on record as opposing the Carson program.

There is continued disagreement over the plan within the oil industry, too. The Interior Dept. is still getting complaints about the program from importing companies and from independent refiners who want a larger share of imports. But government officials—with the threat of mandatory controls as a hole card—still believe they can make the Carson plan work. The big question, if the program is adopted, is whether some large importers will bolt the voluntary plan.

•

The U.S. Supreme Court is back in session, with some major oil and gas cases on its docket. But the first big oil case the court was scheduled to hear—the offshore lands dispute—now has been postponed. Arguments had been set for Oct. 13, but the court, without announcing any reason, canceled the date and postponed the arguments indefinitely. Nor has any date been set for the appeal of the Memphis decision, which the Federal Power Commission wants reversed. Another case that may reach the court during the current session would test the Texas Railroad Commission's regulatory power over natural gas. State courts have upheld the commission's authority to require ratable taking.

•

The government is again trying to hurry the National Petroleum Council back into operation. Interior Secretary Fred Seaton has urged NPC to accept new rules, but has promised an "open mind" on later changes if the council encounters difficulties.

By bus to the moon and back—8000 times

When the giant buses roll – millions of Americans ride. Students to and from school. Workers to and from their jobs. Salesmen, shoppers, families . . . eager vacationers and tourists.

Last year the buses in America carried more than seven billion passengers. These buses travelled more than four billion miles. In today's space talk, that is equal to more than eight thousand trips to the moon and back!

This tremendous free movement of people has been facilitated by fuels and lubricants produced by the petroleum industry, backed up by extensive research and service. Texaco is a leader in this vast network of transportation – actually *more buses in the United States are lubricated with Texaco products than with any other brand.*

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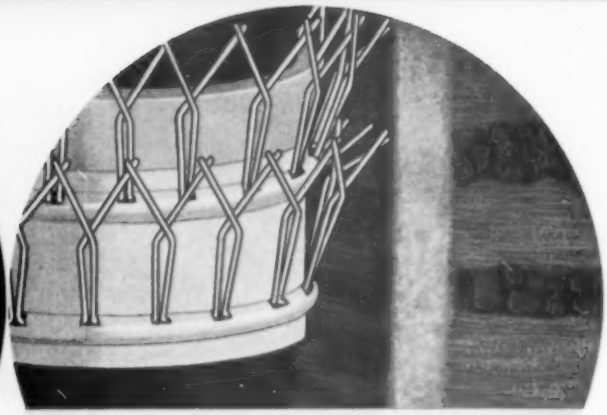
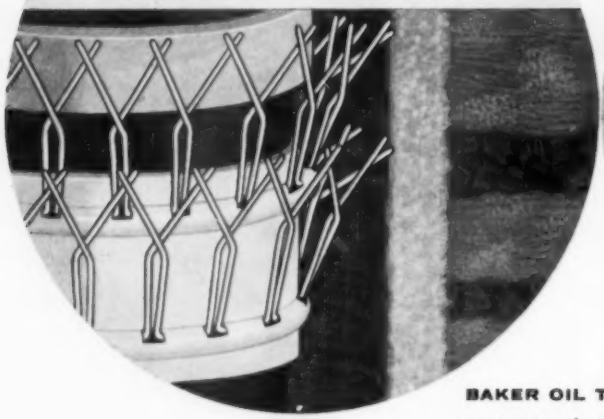


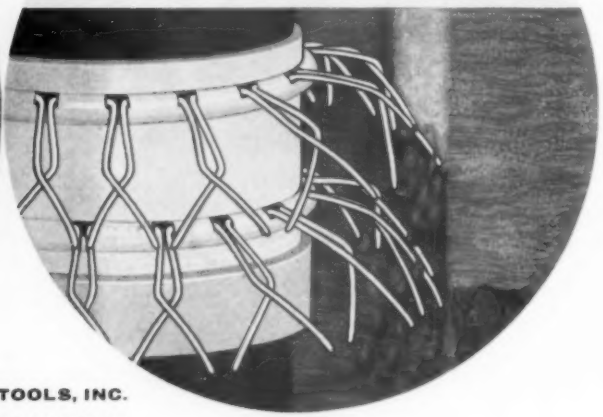
When the casing is being lowered, the scratcher wires swing freely upward and do not remove mud cake which can plug the annulus and cause dangerous pressure surge build-up.

BAKER

After reaching the area to be cemented, the hinged scratcher wires extend to contact the wall of the hole, and when the casing is reciprocated...



...scissors-like operation of the overlapped wires—over the full circumference of the well bore—effectively removes the mud cake which is circulated safely out of the hole.



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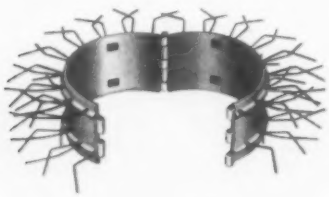
Baker Wall Scratchers are available in the "Solid-Ring Type, (Product No. 901-C) which are slipped *over* the casing; and the "Hinge-Lok" (Product No. 900-C) which fastens *around* the casing. Both types can be positioned with either Solid or Split-Ring Baker no-weld Stop Rings to avoid harmful welding on casing.



Unique Offshore Rig Is Designed

A unique offshore drilling unit, capable of drilling in water 600 ft. deep, has been designed by engineers of Arkansas Fuel Oil Corp.

The unit—radically different from existing offshore platforms—was designed by W. G. Wilson, of AFO's engineering department, and C. J. O'Rear, chief of the design section, civil engineering department, working under the supervision of L. F. Babcock, chief engineer.

The development was first reported in the September issue of AFO's employee magazine, "The Expanding Circle."

So far, the new design has not been carried beyond the drawing board. More details have yet to be worked out, and problems solved, before construction could begin.

Design of the system would be affected, too, by characteristics of the specific drill site, the proposed drilling depth, the casing program, and anticipated weather.

Principal features of the new design are a platform on which is located a minimum of equipment, a buoyancy chamber, a guide pipe or conductor with a drive shoe, a system of guy cables, and a tender.

It's estimated that less than 200 tons of steel would be required to build a float-unit capable of drilling in 600 ft. of water.

This is about ⅓ the amount of steel required to build AFO's present offshore platform, now in 45 ft. of water off Corpus Christi, Tex.

All major loads and heavy equipment, including mud, fuel, water, engines, pumps, pipe, and crew quarters, would be located on the drilling tender.

The size of the platform, therefore, would be held to a minimum. Items to be located on the platform would include the rotary table, with electric or hydraulic drive, blowout preventers, power tongs, a demountable mast, a hydraulically operated lift, and the driller's control panel. The platform would be elevated so as to be above the highest anticipated waves.

The buoyancy chamber would be located below the surface of the water, so that the troughs of even the largest waves would never uncover it. Design calculations were based on 86-ft.-high waves with winds of up to 150 mph.

The conductor pipe encases and is cemented to several casing strings which, in turn, are cemented together. The conductor passes through and is firmly affixed to the buoyancy chamber. Prior to setting the casing, the conductor is driven into the ocean floor and cemented in place.

The chamber's buoyancy would keep a steady upward pressure on the conductor pipe. With the aid of guy cables anchored to the bottom, the structure would then be strong enough to support anticipated loads and remain stable under unfavorable weather conditions.

The cables also would tend to resist the torque generated by rotary drilling and to reduce horizontal movement to acceptable limits.

Lower cables would dampen vibration of the system—which could be serious if the wave frequency were to coincide with the natural frequency of the structure.

Four structural members would support the platform above the buoyancy chamber, and serve as cylinders for a hydraulic lift.

The lift as designed would have a travel of about 40 ft., and would handle a load in the neighborhood of 200 tons.

Either the swivel supporting the kelly, or elevators, would be mounted on the cross head of the lift, depending on the operation being carried out at the time.

During drilling, the hydraulic pressure system would be adjusted to maintain the desired weight on the drill bit, and to lower the pipe automatically as hole is made.

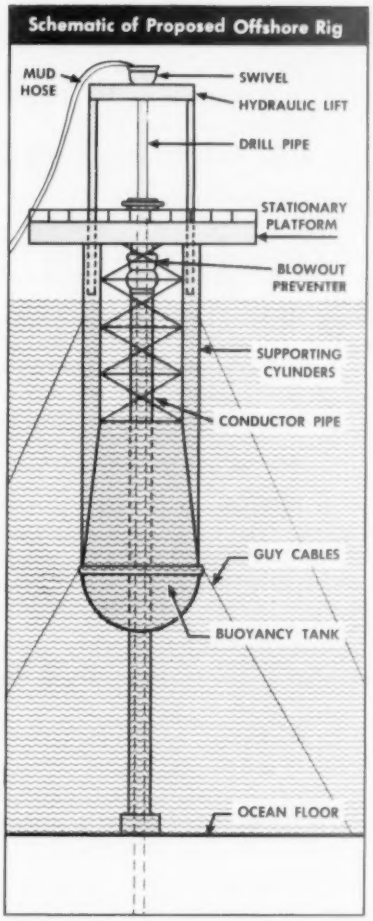
All the heavy work in going in or coming out of the hole would be handled by the lift.

The mast would be used to stabilize the joints above the elevators on the lift, and to handle pipe by doubles or thribbles after it is broken out. Normally, slips at the wellhead would be used in conjunction with elevators mounted on the lift.

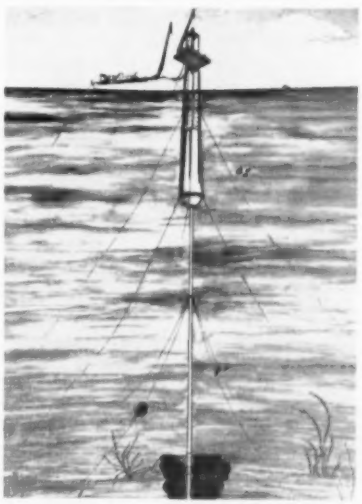
Making hole and setting pipe could be accomplished by use of conventional methods. It is believed, however, that use of the proposed system would dictate many changes in equipment and operation in order to achieve maximum efficiency.

In the event of a severe storm, some of the platform equipment, including the mast, could be transferred to the drilling tender.

The hydraulic lift would be lowered and the tender moved to a shel-



DRILLING IN WATER 600 FT. DEEP could be achieved with this rig, designed by Arkansas Fuel Oil Corp. engineers.



tered area for protection. Required lights and fog horn would be left on the remaining structure.

If drill pipe were in the hole at such time, it would be lodged on a down-hole shoulder, using remotely-controlled slips or hangers. Under these conditions, the load on the upper part of the system would be held to a minimum so that it could weather hurricanes.

Moving the structure and setting it up at a drill site would be relatively simple, according to the designers.

Wilson and O'Rear point out that the unit could be floated in stripped-down condition. Then, by controlling the amount of water in the buoyancy chamber, the conductor pipe could be made to assume a vertical position so that its end could penetrate the ocean floor.

After the conductor was cemented in place, with guy cables attached, water would be pumped out of the buoyancy chamber to get the proper flotation effect.

If the sea bottom were relatively firm, it might be necessary to use the system as a pile driver to force the end of the conductor pipe to the desired depth. A slip joint above the drive shoe would be provided for this purpose.

Should the sea bottom be extremely soft, the conductor could be properly secured at the desired depth by employing a mud sill.

Production, Drilling Gains Noted

- **Advances are being made in in-situ combustion, water-driven carbon dioxide floods, and in waterflooding.**
- **Improved water shutoffs for air/gas drilling are being developed. Muds are being improved, too.**

A field test of in-situ combustion has led to an important finding: Laboratory data was confirmed by actual field experimentation.

P. D. White, J. T. Moss, and J. S. McNiel, Jr., of Magnolia Petroleum Co.'s field research laboratory, reported the finding this week at the 33rd annual fall meeting of the Society of Petroleum Engineers, American Institute of Mining, Metallurgical & Petroleum Engineers, in Houston.

The five-well test program was carried out by Magnolia in a shallow Pontotoc sand in Jefferson County, Okla.

The test site was about 250 ft. north of a similar three-well test conducted in 1953. The Pontotoc sand lies only 195 ft. below ground level in this area.

One centrally-located injection well and four production wells were drilled, in a five-spot pattern. The production wells were each 40 ft. from the injection well. Four pairs of observation wells were located between the injection and production wells to observe the advance of the burning front.

Surface equipment for the test included two 64-bhp. compressors, capable of supplying up to 630,000 cu. ft. of air per day under 200 psig.

An electric heater designed to deliver 50 kw. at temperatures up to 1,400F was used to fire the injected air.

While injection pressure was kept virtually constant at 150 psig., the rate of air injected increased from 17,000 cu. ft. daily to 240,000 cu. ft. daily during the first four months of combustion.

By the end of the test, 1,349 bbl. of oil had been produced—equivalent to 4½ times the estimated primary production.

A little more than half of the initial oil in place was produced.

The combustion front reached two of the producing wells almost simultaneously 14 weeks after ignition.

Other results of the test:

- Gravity of the crude was increased as much as two degrees.
- Areal sweep efficiency amounted to 85% of the pattern area, with a vertical sweep of 30%.
- The burning front passed through only 26% of the reservoir volume.
- Air required for combustion was estimated to be 406 standard cu. ft. per cu. ft. of reservoir.
- The direction in which the burning front moved was controlled essentially by reservoir characteristics.

"Probably the most important result of the test," the authors concluded, "was the confirmation of laboratory-derived data for a particular reservoir by actual field experimentation. It now seems reasonable to expect that laboratory studies on other oil reservoirs could give useful design information, permitting at least an approximate appraisal of the oil recovery possibilities for almost any particular oil field."

Another relatively new secondary recovery process—water-driven banks of carbon dioxide—has shown promising results in a laboratory test.

D. M. Beeson and G. D. Ortloff, of Jersey Production Research Co., reported that laboratory tests of the new process indicate that water-driven carbon dioxide banks "substantially increased oil recovery over that obtained by waterflood."

The increase in oil recovery is due to oil swelling and viscosity reduction. With this system of secondary recovery, the carbon dioxide injected into the oil-bearing formation dissolves in the crude, reducing its viscosity. Injected water propels the bank of carbon dioxide and oil saturated with carbon dioxide to displace original oil.

The tests, which involved both high- and low-viscosity crudes, also showed that:

- Recovery during a carbon-dioxide-bank flood can be closely predicted from phase behavior and waterflooding data.
- Additional oil was recovered by solution gas drive at the end of the carbon dioxide flood when the model system was depressured.

Beeson and Ortloff said the volumetric sweep efficiency might be expected to approximately 100%.

Any extension of the conclusions to actual field systems, however, would require correction for effects such as areal sweep and stratification, they added.

A claim that a new type of water shutoff for use in air and gas drilling has proved 99% to 100% effective in various tests has been made by researchers from Gulf Research & Development Co.

Robert J. Goodwin and A. J. Teplitz said the method was proved effective in several different formations of intergranular-type porosity.

"Since costs for materials, time, and equipment used are relatively small, the process should extend economies of air drilling to many new areas," they told the AIME meeting.

The treatment involves a new liquid-gas plugging technique to form a water-insoluble precipitate within the pores of a rock.

Advantage is taken of the difference

in mobility of a liquid and a gas in porous media to gain the greatest volume of precipitate in a given pore.

The reactants selected for laboratory and field tests were aluminum sulfate solution and gaseous ammonia.

The researchers noted, however, that the treatment is not particularly suitable for shutting off water from fractured formations, although plugging of the order of 50% or more has been achieved in all such applications. Cost of the treating material is about $3.00 per foot of hole.

Three separate research efforts have been directed at another major production goal: How to increase oil recovery in waterfloods.

Questions involving the use of detergents were tackled by J. J. Taber, of Gulf Research & Development Co.; and F. J. Fayers and R. L. Perrine, of California Research Corp. Another approach to the same question was taken by O. R. Wagner and R. O. Leach, of Pan American Petroleum Corp.

Taber noted that, while there is lack of agreement as to the general effectiveness of detergents for waterflooding, most investigators agree that all of the common detergents (wetting agents) are strongly adsorbed onto the solid surfaces of the reservoir.

Because of this adsorption, the surfactant lags behind the floodwater front. This means much, if not all, of the additive would be lost before reaching the formation area where the additional oil is to be recovered.

An investigation was made of the possibility of using high concentrations of detergents economically by flowing slugs of wetting agents, followed by normal flood water.

Taber told AIME that results of the flow experiments indicate that the relative rate of surfactant advance can be regulated by the concentration of the agent. The slugs, however, must be concentrated, and of sufficient volume to progress a significant distance into the formation.

The high concentrations flowed four times as fast as low concentrations, and removed much more oil than the dilute solutions.

Fayers and Perrine studied the problem of determining economic feasibility of detergent use, and came up with a mathematical description.

They say that this description, or formula, based on several assumptions, reduces to a hyperbolic system of partial differential equations.

Use of the formulas can lead to solutions that would establish an optimum economic program of injection, minimizing the cost of detergent and flood water while maximizing the recovery of oil.

They added that the method can also be used to solve other complex reservoir engineering problems.

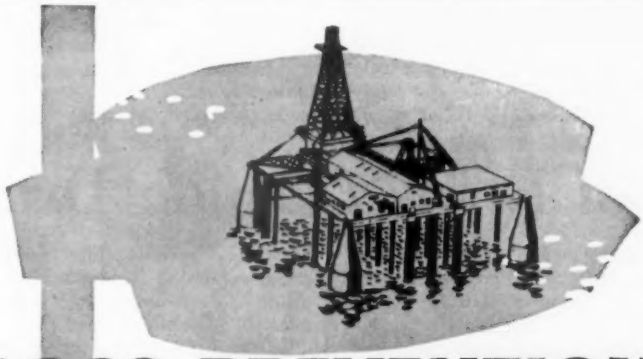
Wagner and Leach made a study to determine whether oil displacement might be improved by a wettability change accomplished at low cost in an oil reservoir.

Their laboratory studies indicated that reservoir wettability may be primarily determined by natural surface-active substances present in the reservoir fluids. The effect of changing salinity and pH of the water phase was studied.

Results indicated that gross changes in preferential wettability might be accomplished by injection of water containing simple chemicals to alter pH or salinity in the reservoir. Such treatment could be less expensive than injection of commercial surface-active agents.

They concluded that reversing wettability (from oil-wet to water-wet) during a waterflood will result in an increase in oil recovery over that obtained where no wetting change occurs.

Drilling rates may be improved by better cleaning of the hole and by equalizing the difference between mud-column pressure and formation pressure, according to R. A. Cunning-



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ham and J. G. Eenink, of Hughes Tool Co.

Laboratory studies showed that the drilling rate decreases when the mud column pressure is greater than the formation pressure, they said. This decrease is due primarily to a layer of cuttings and mud particles held to the hole bottom by this pressure difference. Because cuttings are not carried away, the bit recuts cuttings, thus decreasing penetration rates.

Also, when the mud column pressure is higher, mud particles are forced into pores in the formation, so that formation pressure cannot work to clean the bottom of the hole.

Improved cleaning of the hole helps remove the layer of cuttings between the bit and the formation, thus allowing the bit to penetrate new rock, they reported.

Adequate jet velocities help clean this filter cake, and result in an increased drilling rate. The higher the jet velocity, the faster the drilling rate.

It was also found that the drilling rate increases slightly when the formation pressure is greater than the mud column pressure. The increase results from cleaning of the hole bottom as formation fluid flows into the bore hole. This loosens the layer of cuttings, and allows the bit to penetrate new rock.

Laboratory and field tests have resulted in what appears to be a new method for improving and controlling the lubricating properties of drilling fluids under pressure (PW—Feb.21' '58,p22).

This method involves the use of additives, which provide a protective film on bearing surfaces subject to high load pressures, M. Rosenberg, of Gulf Research & Development Co., and R. J. Tailleur, of Mene Grande Oil Co., told the meeting.

The most widely used types of drilling fluids may be converted to extreme pressure (EP) lubricants, they said.

Tests show that bit-bearing life with an EP oil-emulsion mud is three to four times greater than with a conventional mud. With a water-base mud, EP additives have improved bearing life four to five times above muds without lubricating qualities.

The results of test-stand drilling tests made with a turbodrill, using 9-in. standard bits drilling on steel plates, showed that when water with EP lubricating qualities was used as the circulation fluid, bearing life was three times greater than that obtained when plain water was used.

Tool Helps Cushion Drilling Shocks

A suspension drilling tool designed for fast, safe, and economical drilling is now being offered to the oil industry.

Beck-Hill, Inc., claims that the tool increases over-all drilling efficiency by its reciprocating action, which allows the drill bit to rotate on bottom while the string of drill pipe is held in cushioned suspension from the kelly.

With drilling weight held constant, the bit can drill continually at its highest and safest performance level, says the company.

In operation, the suspension drilling tool is placed in the drill string between the drill collars.

The manufacturer recommends some weight above the tool for maximum efficiency.

The tool is about 100 in. long, with outside diameters varying from 3⅛ in. to 8½ in. Beck-Hill is prepared to make tools up to 11-in. outside diameter as the demand arises.

Main components of the tool are a mandrel, barrel, and lock. The mandrel functions inside the barrel with a patented seal piston. The tool provides for a 10-in. stroke.

The hydraulic action of the drilling fluid as it passes through the differential chamber between the suspension tool body and the mandrel acts as a shock-absorber and cushions the drilling.

Load on the bit, predetermined for the particular formation encountered, is regulated by the size and number of the drill collars above the tool.

Advantages are claimed in the prevention of fishing jobs, drilling of straighter holes, less wear and tear on drilling equipment, and increased over-all drilling efficiency.

If the drill string becomes stuck, or a key seat occurs, the tool can be positioned immediately to jar up or down, as desired.

By releasing the torque, the tool will engage its clutch mechanism in whatever position desired, either contracted or extended.

On a washover job, the tool is said to help prevent freezing of wash pipe and to reduce the number of shoes required.

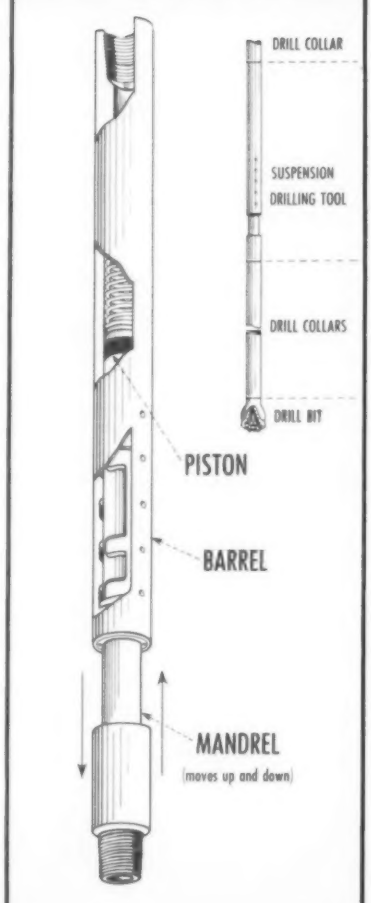
With the string of drill pipe held in suspension at all times during drilling, says the company, the tendency of the bit is to drill a straight hole automatically. The full weight of the drill collars suspended free in the hole acts as a plumb bob and resists forces which tend to cause deviation from the vertical.

The tool also is said to eliminate bounce in the drill pipe and to reduce vibration of the rotary and swivel.

This reduction of vibration and shock to the drill string relieves fatigue factors and results in longer life for bits, drill pipe, kelly bushing, and swivels, generally reducing wear and tear on equipment both downhole and on surface, according to the company.

The tool was developed after several years of field-testing in California and Louisiana. It is presently being used in the Rincon field, Ventura County, Calif., and in Louisiana, both onshore and offshore.

Suspension Drilling Tool



Texas Drilling Is Down, But . . .

Texas operators will spend almost $1-billion in drilling operations this year, despite a 20% drop in drilling activity from last year.

Texas operators will risk a total of $970-million in drilling operations in 1958, says the Texas Mid-Continent Oil & Gas Assn. This amount, though $230-million below 1957's outlays, will be just a little under the total spent on all construction in Texas last year, the association estimates.

So far this year, a little more than 12,000 tests have been drilled in Texas.

This compares with 15,000 drilled in the state up to this time last year. In 1957, a total of 21,300 were drilled, for a footage of almost 90-million ft. Projected to year's end, the association says, the current rate would show a 1958 footage of around 72-million.

The lack of funds from production was a factor in the cutback in drilling budgets this year.

Says the association: "A sharp readjustment in the industry's inventories of crude and products brought a painful pinch in drilling employment, equipment sales, and many other affected areas. Top-heavy supplies built up in 1957 and early 1958 could only be corrected with lower production rates in face of a national oil demand which seems to have almost leveled off from past upward trends."

Last year, the net number of wells added to Texas Railroad Commission production schedules was about 850 per month. Thus far in 1958, the additions are about 450 per month.

Drops have been registered in the number of wildcats drilled, geophysical crews active, and rotary rigs operating.

Exploratory drilling so far this year has shown a drop of nearly 30% from 1957.

Geophysical crews seemed to be most active in mid-1956, when more than 220 crews were working. The first half of 1958 saw an average of just over 160 crews working in Texas.

This year there are about 24% fewer rotary rigs operating in Texas than last year, though Texas seems to be holding its usual pace of drilling about two out of every five wells drilled in the U.S., and continues to employ a little more than one out of every three drilling rigs operating.

Package Insurance Offered

A new, all-inclusive insurance plan for drilling contractors is now available from Liberty Mutual Insurance Co.

William R. Newton, company vice-president, says the coverage is the first package plan to be introduced for the drilling industry.

The coverage includes workmen's compensation, general liability and fleet insurance, and a new physical damage policy devised by the company to cover drilling rigs.

The policy has been tailored to contain in one unit all the physical-damage coverages necessary for drilling operations, says Newton.

Some other policies, he says, consist of standard contractors' equipment policies adapted to oil problems through a series of endorsements.

"This new, tailored package offers drillers complete protection in depth," Newton says "in that it carries along with it the use of the company's staff of loss-prevention specialists. These men are trained engineers and will work with rig operators in eliminating job hazards, in establishing simple and effective safety programs, and in training drilling crews in emergency procedures.

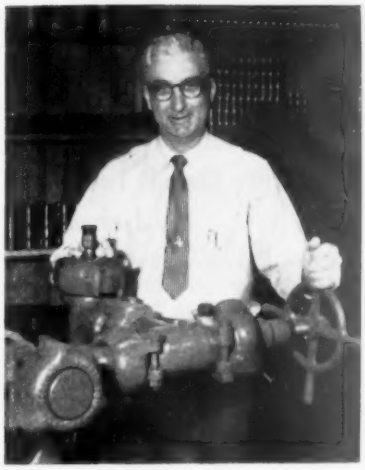
"Whenever necessary, they will inspect drilling operations at the well site and, in the event of an accident, the engineers are available to investigate the mishap and to suggest steps for preventing a recurrence."

Special rig coverage can be written to cover either stacked or operating equipment, or both, says Newton.

New rigs, and additional equipment up to 10% of the value of each rig, are automatically covered when reported within 30 days of purchase, he says. This property insurance is written on an "all-risk" basis, providing protection from physical loss and damage from any external cause not specifically excluded in the policy.

The workmen's compensation coverage included in the package meets all legal obligations of states in which the rig owner operates, he says. Fleet and liability coverages are included to provide against accidents and injuries resulting from the operation of large or small motor vehicle fleets and against bodily injury and property damage liability suits growing out of the driller's operations.

Before a policy is written, a complete program evaluation is made, says Newton.



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What's New / IN EXPLORATION, DRILLING, PRODUCTION

Pescadito Dome Test Is Abandoned

Ginther, Warren & Co. No. 1-A O. W. Killam—the latest deep test on Texas' Pescadito Dome—has been plugged.

The test was drilled to 19,503 ft. in an effort to hit the Edwards formation. However, no encouraging sands were found and the operator tested up the hole in the Taylor formation, first at 11,250 ft., and then higher at 10,700 ft. A company spokesman said there wasn't enough commercial sand to pay off at that depth.

While efforts to tap the Edwards on the huge salt dome have been unsuccessful so far, there are indications that a new drilling program—possibly for shallower sands—may begin soon. Several wells have been completed in the Wilcox at 8,670 ft.

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Leasing News

The University of Texas lease sale Sept. 30 brought bonuses totaling $5,152,000.

Leases were awarded on 44,444 acres in nine West Texas counties. Bonuses averaged $116 per acre, compared to $59 per acre at a sale last November.

Pure Oil Co. and Ohio Oil Co. jointly paid a total of $2,433,500 for drilling rights on a 3,200-acre block near the Brown-Bassett field, and on 1,920 acres in six other tracts, all in Terrell County.

The Sept. 29 sale of leases on Oklahoma school lands brought bonuses totaling $102,800 for 6,707 acres.

Mid-America Minerals, Inc., was high bidder, paying $111 per acre for an 80-acre tract in the Burns and Beaver pool area, Stephens County.

All 166 tracts offered at the Sept. 24 sale of South Dakota school lands were leased.

High bid of $17.64 per acre was offered by Edgar M. Boland for a 231-acre tract in Perkins County.

The offering included 135,030 acres.

More than 34,890 acres on Uintah-Ouray Indian lands in Utah will be offered for lease Oct. 28. The 27 tracts offered are all in Duchesne County.

Offshore Costs Decline But Still High

The cost of finding offshore oil is declining, but is still high enough so that oil companies continue to concentrate on cheaper dry-land drilling, says Len K. Williams, Atlantic Refining Co. director of offshore operations.

Williams told University of Texas petroleum engineering students last week that 2,300 tests have been drilled in the Gulf of Mexico—mostly west of the mouth of the Mississippi River—since 1938. Of these, between 1,500 and 1,600 have found either oil or gas, or both.

Some 35% of offshore exploratory tests, he said, have been successful, compared to the national wildcat success average of 11%.

•

President Eisenhower has approved the Navy's contract with Intex Oil Co. for offset drilling at the Teapot Dome reserve in Wyoming.

Operations should be under way within two weeks, according to the Office of Naval Petroleum Reserves, with plans calling for spotting of four wells initially, to determine how many wells will be required. The estimate now is that 50 wells drilled over a four- to five-year period can offset the drainage resulting from private drilling along the reserve's eastern boundary.

•

A gas injection program, apparently of a new type for Texas, has been proposed by Pan American Petroleum Corp.

The company asked the Texas Railroad Commission for approval to inject gas in certain wells in the High Island field, Galveston County, Texas Gulf Coast, in order to displace the attic oil updip of the present completions in the field.

Plans are to inject casinghead gas, currently being flared, to displace the oil, which will then be produced from the injection wells after gravity segregation has occurred.

The field is a complexly faulted piercement-type salt dome. Pan Am said that certain wells in the field are off production due to water encroachment. In the company's opinion, there is oil updip of these flooded comple-

Alaska: Interest Warms as Weather Cools

Snow-covered tundra forms a bleak background for Humble Oil & Refining Co.-Shell Oil Co. No. 1 Bear Creek, near Kanatak on the Alaskan Peninsula. Because of the cold weather, the rig is completely enclosed. Humble is reaming at 12,062 ft. at the projected 12,500-ft. test.

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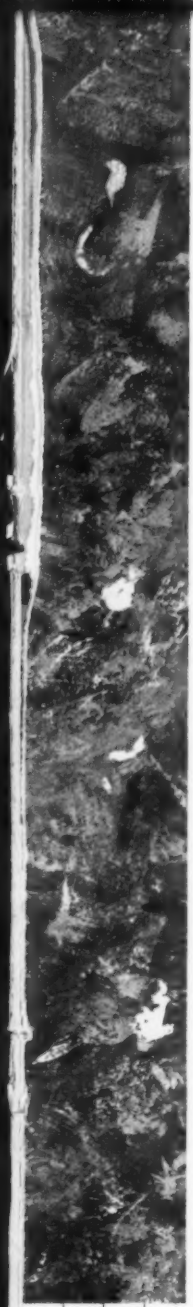

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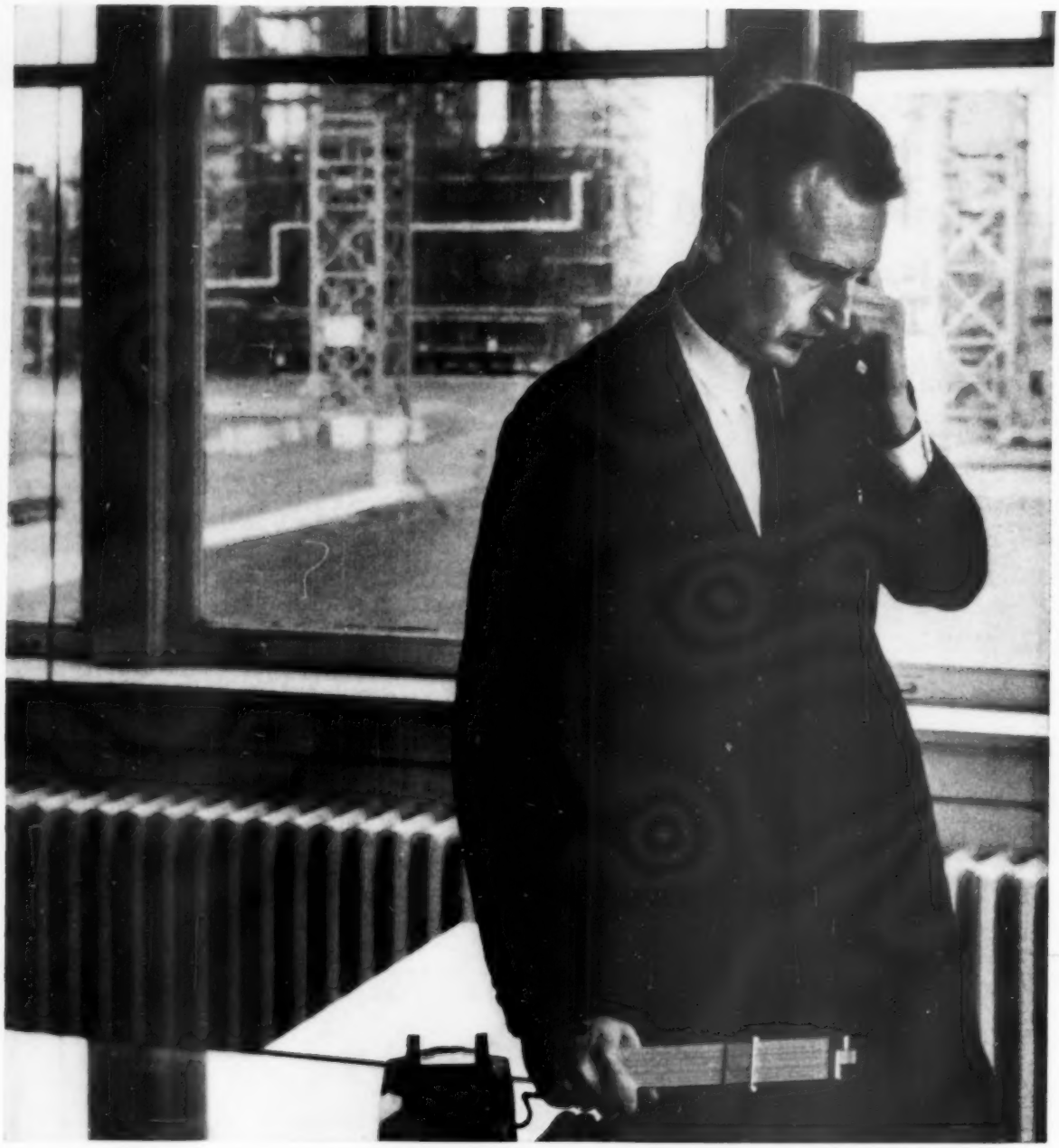

"Productivity is the end result of four factors working together effectively: labor, management, capital, and technology. No one or two can produce alone – all four are needed. And a reasonable balance among all four must be achieved constantly. To maintain this balance in our complex world today requires more knowledge, more understanding, more creativeness and more objective thinking on the part of more people. Education should lead towards this result, and the broadly trained scientific college graduate is certainly one of the key figures in the picture."

M. J. Rathbone, President, Standard Oil Company (New Jersey)

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AND AFFILIATED COMPANIES

tions, but the faulting makes it too hazardous to attempt drilling additional wells to recover this oil.

•

The Colorado Oil & Gas Conservation Commission has approved unitization of three fields in the Denver-Julesburg Basin.

Continental Oil Co. will be operator of the Little Beaver "D" Sand unit, comprising 2,680 acres in Washington County. It's estimated that waterflooding will boost recovery by 8,149,000 bbl.

Standard Oil Co. (Ohio) will operate the 840-acre North Kejr field unit in Washington County. It is estimated that waterflooding will recover an additional 1.5-million bbl. of oil.

J. M. Loffland, Jr., will operate the Fort Morgan field unit, comprising 2,400 acres in Morgan County. A gas injection project is planned.

•

The U.S. Geological Survey has approved two new units in Wyoming's Green River Basin.

El Paso Natural Gas Co. is operator of the Black Rock Creek unit, Sweetwater County. The block contains 57,475 acres, and is 12 mi. northwest of the Desert Springs unit, where El Paso has found multipay gas production.

Amerada Petroleum Corp. is operator of the 6,240-acre Fossil unit, Lincoln County. The company is drilling the first wildcat on the unit.

•

Engineering

A new surveying instrument designed for short-distance measurement has been introduced by Geodimeter Co.

The Model-4 Geodimeter, weighing 35 lb., and measuring 12 in. square, can be used for oil field surveys in rough terrain. It is especially designed for short distances of up to 3 mi., says the manufacturer.

•

Drilling Highlights

California—Union Oil Co. of California No. 65-23 KCL, section 23-30s-26e, Kern County, was completed for 315 b/d of 30.2-gravity oil through 24/64-in. choke and perforations at 9,402-10,262 ft. in the Lower Stevens. The discovery is 1 mi. southwest of the Lower Stevens pool opened a year ago.

Oklahoma—T. P. Petroleum Co. No. 1 Waswo, section 6-15n-4w, Logan County, flowed 35 bbl. of 42-gravity oil per hour through ½-in. choke and perforations at 6,690-850 ft. in the Mississippian. The discovery is 1½ mi. west of East Cashion pool, which produces from the Pennsylvanian.

Arkansas—Janlyn Oil Co. No. 1 J. A. Smith, section 1-17s-23w, Northeast McKamie pool discovery in Lafayette County, was completed for 5-million cu. ft. of gas daily and 35 bbl. of 65-gravity distillate through perforations at 8,230-45 ft. in the Smackover. The well is 6¾ mi. southeast of Kress City field.

British Columbia—Sinclair Canada Oil Co. et al No. 2-B-13, 94-G-1-D-50, 80 mi. northwest of Fort St. John, was dually completed for 4,950,000 cu. ft. of gas daily from the Triassic A zone at 5,422-82 ft. and 7-million cu. ft. of gas daily from the Triassic D section at 6,501-42 ft.

West Texas—Magnolia Petroleum Co. No. 1-59 George Sealy, section 59, block F, G&MMB&A survey, Ward County, was completed as a Yates discovery, flowing 113 b/d of 29-gravity oil through 8/64-in. choke and perforations at 3,199-205 ft. The discovery is 2 mi. northwest of South Magnolia-Sealy field.

South Louisiana—Mississippi River Fuel Corp. and Hope Natural Gas Co. No. 2-E Louisiana Land & Exploration Co., in the Wilson Pass area, Terrebonne Parish, flowed at the rate of 91 b/d of distillate and 3,590,000 cu. ft. of gas daily through 14/64-in. choke and perforations at 9,936-50 ft., and 72 b/d of 48-gravity distillate and 2,440,000 cu. ft. of gas daily through 12/64-in. choke and perforations at 10,026-46 ft. on 4-hour tests. A third section, at 9,823-26 ft. also flowed gas and distillate, but operator plans to complete dually from the other two zones, with the third sand left open.

The prospect is 3½ mi. northwest of Bay Round field.

Colorado—Honolulu Oil Corp. No. 1 McConnell, section 20-10s-47w, Kit Carson County, recovered 270 ft. of oil and 100 ft. of heavily oil- and gas-cut mud on 4½-hour test of the Pennsylvanian at 5,510-26 ft. The county has no established production. A test drilled in the same section some years ago had Pennsylvanian shows and was swabbed for 20 b/d of oil and 61 b/d of water before being abandoned.

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THIS 600-ACRE SITE is the location for the new refinery being built by BP Canada Ltd. at Ville d'Anjou, near Montreal.

BP CANADA'S PROJECT ENGINEER, V. J. Morgan (pointing) shows progress of refinery to the mayor of Ville d'Anjou.

THESE JETTIES ARE BEING BUILT on the St. Lawrence River to accommodate sea-going tankers. Oil is sent through a . . .

PIPELINE TO THE REFINERY, which runs about 3 mi. from the tanker terminal now under construction on the river.

BP's Start in Canada: Small, Simple

British Petroleum Co. is making its entry into the North American refining business by building one of the smallest and simplest plants now under construction on this continent.

Back in 1956, the company formed BP Canada Ltd. "to survey possible entry into the oil refining and marketing industry in central or eastern Canada" (PW—Mar.23'56,p27).

By mid-August of that year, BP had made up its mind; Eastern Canada was ripe for invasion.

After preliminary "jabs" in marketing, BP Canada Ltd. is now getting ready for its big lunge into Canada by building its first refinery in this hemisphere.

But BP is coming in cautiously:

Throughout, the first refinery of BP Canada Ltd.—a 25,000 b/d plant being built near Montreal—is designed for economical efficiency.

The refinery's design runs counter to the trend of large-capacity, highly instrumented, elaborately equipped plants being planned or built by most majors now interested in increasing their refining capacity.

Money and time savings were emphasized even in the earliest planning stages of the refinery. For instance, a BP engineering team set to work on the design and engineering of "stage 1"—facilities to handle inflow, storage, and dispatch—even before the prime contractor, The Lummus Co. of Canada, Ltd., was selected.

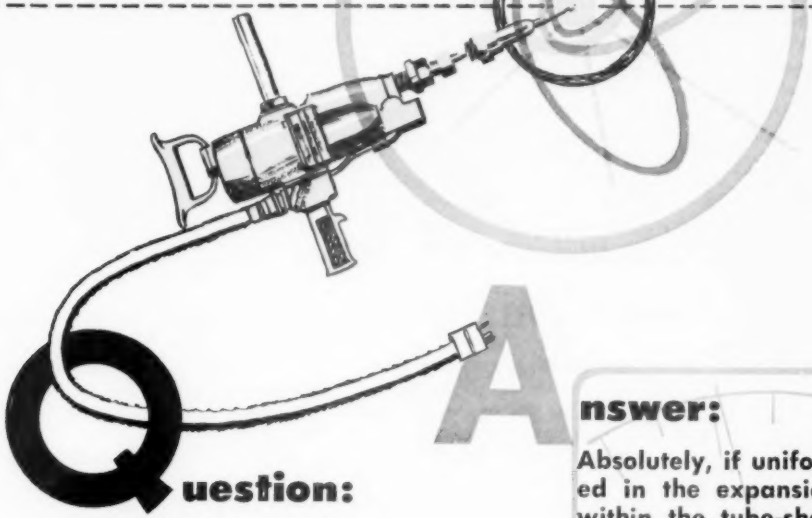
As a result, when Lummus came on the job last March, design and even some of the physical work on "stage 1" was completed.

Therefore, the target date for completion of this stage, the spring of 1959, will more than likely be met.

The refinery is scheduled to go on stream in the spring of 1960.

Considerations of economy also prevailed over the "gold-plated" school of thought in the matter of flow design between units. BP Canada decided to reduce its storage-tank investment here by moving fluid flow from one

What about controlled torque tube rolling in heat exchangers?



Question:

Is controlled torque tube rolling *imperative* to high quality heat exchanger fabrication?

Answer:

Absolutely, if uniformity is expected in the expansion of the tube within the tube-sheet. The highly specialized electronic equipment used assures a fluid-tight joint, and protects . . .

. . . Western customers against human error. With the application of the controlled torque principle, the entire tube rolling operation becomes a matter of mechanical precision and machine perfection. As a result, Western heat exchangers are structurally sounder, are less susceptible to corrosion and can be retubed more easily. Controlled torque tube rolling at Western eliminates the dangers of over-rolling and work-hardening, which so often cause structural weakness, invite corrosion, and increase maintenance costs.

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Constant attention to the potentials and restrictions of a wide range of metals is reflected in Western's application of controlled torque tube rolling for *all* customers.

unit to the next without the use of large amounts of intermediate tankage. (A few intermediate storage tanks, of course, will be necessary to allow for interruption of flow for a few hours.)

As a result, it will be necessary to shut down all units at about the same time for turnaround.

The benefits from this design, according to BP: over-all efficiency at a saving in capital cost; heat conservation; and assorted "side advantages."

Besides these savings, the relatively low cost of hydroelectric power in the area made it economical to use electric motors for most of the processing unit prime movers.

The plant will use only "standard" processing units to meet Eastern Canada's gasoline octane requirements.

The plant's processing units will line up this way:

- A 25,000 b/d crude and vacuum unit.
- A 12,000 b/d desulfurization distillate treater.
- A 6,000 b/d catalytic reformer.
- A 9,000 b/d fluid cat cracker.
- An 800 b/d cat polymerization unit.

Basic process design of the cat cracker and cat reformer is by Universal Oil Products Co.; all other units were designed by Lummus.

The refinery will produce two grades of gasoline, diesel oil, and No. 2 and No. 6 fuel oil.

BP Canada says it has no intention of putting in an alkylation unit because it feels it can obtain necessary octane ratings without the expense of alkylation.

The company feels this way despite the fact that octane ratings in Eastern Canada are among the highest in Eastern North America. In July, research octane number for premium gasolines sold in Quebec Province averaged 99.1. At the same time, octane ratings of premiums sold in eastern U.S. cities were: New York, 99.2; Baltimore, 99.1; Philadelphia, 98.6; and Buffalo, 98.9.

BP was looking ahead when it set the design for its Montreal refinery: The plant will be able to run on either foreign crude or Western Canadian crude.

Initially, the plant will take Middle East and Trinidad crude, most of which will move to the Montreal area from the U.S. Atlantic Coast through the Portland Pipeline. The line's capacity was recently increased from 241,000 b/d to 257,000 b/d.

By relying on delivery of crude through the Portland line instead of spring-through-fall delivery by tanker to Montreal, BP has cut its crude storage needs appreciably. The refinery will have only 240,000 bbl. of crude storage capacity.

However, some crude deliveries will be made to the refinery by way of the St. Lawrence River, and dock facilities and a 3-mi. pipeline system to the plant are being built.

But BP Canada says that the plant will be able to change over to running Canadian crude without serious difficulty "should it one day become economical to bring Canadian crude down to Montreal."

Although there's plenty of room for expansion at the Montreal site, an increase in capacity will have to await the results of BP Canada's young marketing program.

The refinery will take up only about one-third of the 600 acres BP Canada owns at Ville d'Anjou, about two miles from the Montreal East refining center.

But BP says that this is only "intelligent planning," and that there is now no specific expansion time-table set for the plant. In fact the company even suggests that it may prove more economical later on to build a second refinery at a more westerly location. Company officials say that such plans depend on "future market penetrations."

A new IBM "package" offers . . .

Easy Computing For Independents

Independent refiners can now draw freely on a whole raft of operating experience in the use of digital computers to work out refinery problems. It's available in IBM's new package of refinery computer programs.

Digital computers such as IBM's 650 have won wide acceptance among refiners throughout the country in recent years as more accurate and time-saving instruments for calculating involved refinery problems.

But many independent refiners have had to do without such aid, not so much because of the cost of leasing such machines as because of the costly early expenses involved in their use.

The new refinery computing package, developed by IBM with the help of major oil companies, is designed to give the smaller refiner a running start in the use of IBM's 650 digital computer.

The package, more formally known as "IBM Proven Engineering Programs for Petroleum Refineries," is aimed primarily at plants with capacity between 20,000 b/d and 50,000 b/d.

But the programs are now in use in refineries with higher capacities; and IBM feels that even smaller refineries will have occasion to use the calculations available in the program.

The package consists of programs developed by major companies that have been using the 650 to solve their refinery problems.

As a result of the contributions by these majors, smaller refineries which are now installing the 650 or intend to do so, can often avoid all the usual "spade-work" programming by following a path already cleared by one of the major-company contributors.

And IBM says that the time saving is appreciable: The programs it is now making available, it estimates, "would take a highly-trained technician nearly five years to evolve."

Instead, the library will enable the new 650 user to reap the benefits of electronic computing almost immediately after installation of the system.

So far, the package makes available digital computer programs for handling calculations for ten different refinery studies.

For example, there's the program developed by Humble Oil & Refining Co. for plate-to-plate distillation calculations. This program may be used by the refiner for easy, rapid distillation tower evaluation in conjunction with tower design; tower efficiency calculations for maintenance purposes; and for evaluation of alternate modes of plant operation.

Other programs available in the library:

- Bonner's short cut distillation.
- Union's heat exchanger program.
- Magnolia's linear program.
- Shell's regression analysis.
- Pipe stress analysis.
- Benedict equations.
- Interpretive routine.
- The mathematical formula translating system for Transit—an automatic coding system for the IBM 650.
- The symbolic optimum assembly program for the 650.

Other programs will be made available as they are developed. The 650 is currently being used to solve other refinery problems, and additions will be made to the package as the user-companies finalize the programming for these problems.

What's New / IN PROCESSING

Groundbreaking for Standard Oil Co. of Calif.'s Hawaiian refinery will take place Oct. 24.

Location of the 32,000 b/d refinery is at Barber's Point, 16 mi. west of Honolulu. The first processing equipment for the $40-million installation should be in operation by the end of 1960.

Contractors for the refinery include Hawaiian Dredge Co., Bechtel Corp., and E. E. Black.

•

Petroleum Chemicals, Inc., is now producing ethylene at its new plant at Lake Charles, La.

The plant is rated at a capacity of 200-million lb. a year of ethylene, but it was designed for easy expansion to 300-million lb. a year when desired. The Lummus Co. built the plant.

Feedstock for the plant is byproduct gases from refining operations by Cities Service Refining Corp. and Continental Oil Co. at Lake Charles, as well as gases from the nearby PCI ammonia plant.

•

Calcasieu Chemical Corp. has made its first shipment of ethylene glycol from its newly completed plant at Lake Charles, La.

Capacity of the plant is 8-million gal. a year of ethylene glycol. Its cost was $11-million. Petroleum Chemicals, Inc., engineered the plant for Calcasieu, and is presently operating it. The Lummus Co. built the plant.

Feedstock is ethylene from the adjacent PCI plant. This is converted to ethylene oxide by the Shell Development Co. process, then reacted with water to form ethylene glycol.

•

Mullite pellets for catalyst support are available from Davison Chemical Division of W. R. Grace & Co.

The pellets are thermally fused spheres of alumina and silica, manufactured to the mineral formula of mullite, $3Al_2O_3 \cdot 2SiO_2$. The company recommends them for support of catalyst beds in down-flow fixed-bed reactors, as catalyst spacers for multiple reaction systems, or as a diluent for the active catalyst.

Properties claimed for the pellets are high density, excellent mechanical strength, and chemical inertness.

Kerr-McGee Oil Industries, Inc., will transplant a vacuum crude unit to its Kermac refinery at Cushing, Okla., from the now defunct Tidewater Oil Co. refinery at Drumright, Okla., 12 mi. away.

The 14,000 b/d distillation unit was built in 1952. No date has been set for the transfer. Kermac has about 15 months more in which to take it from its present location.

The Tidewater refinery is in process of liquidation under contract by Heat & Power Co., of Tulsa.

•

Synthetic rubber consumption for August was 70,811 long tons, accounting for 64.46% of the total new rubber consumed during August, according to the Rubber Manufacturers Assn.

This compares to a July synthetic rubber consumption of 63,865 long tons, 65.10% of total new rubber for the month. For the first eight months of 1958, synthetic rubber accounted for 64.22% of total new rubber, as compared to 62.88% for the first eight months of 1957.

•

Bacteria can form sludge in kerosine-type jet aircraft fuels, according to an Air Force research report.

Certain types of bacteria find nutritive material in JP-4 fuel, and emulsify the fuel to form gummy residues—then themselves form precipitates. Details of further evaluations of this problem, and of related corrosion- and gum-inhibitors, are available for 75¢ in report PB 131813 from the Office of Technical Services, U.S. Dept. of Commerce, Washington 25, D.C.

•

The first foreign installation of the Milney sludge acid recovery process has gone on stream for Norddeutsche Raffinerie, in Hamburg, Germany.

The installation, licensed by L. Sonneborn Sons, Inc., is the sixth Milney retort now in operation for the production of byproduct materials from sludge acid. The other units are at Gulf Oil Corp.'s Port Arthur (Tex.) refinery, Stauffer Chemical Co.'s Hammond (Ind.) plant, and three at the Sonneborn refinery at Petrolia, Pa.

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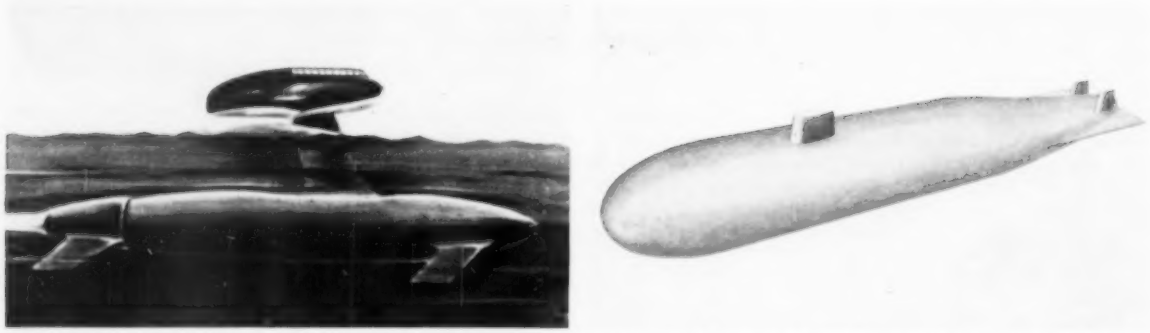

TOMORROW'S TANKERS may look like these atom-powered sub models recently designed for U.S. Maritime Administration as . . .

The Tanker Revolution Draws Closer

The agency sponsoring what is probably this country's most advanced research on future tanker design, the U.S. Maritime Administration, last week offered a peek up its long-range sleeve.

Research on tomorrow's tankers is, of course, of wide interest to all involved in or dependent on long-distance over-water transportation of oil. And that means virtually the entire oil industry. But the nature of such research—mostly its expense—has made it prohibitive for most companies.

Many oil companies and shipping companies have undertaken to research "a slice" of the over-all problem of the design of future tankers, but the broad problem has been left largely to government-paid researchers.

The Maritime Administration last week unveiled a couple of futuristic, but quite possible, designs for the atomic-powered submarine tanker it would like to see built some day soon.

In introducing the proposed designs, Maritime Administration officials talked glowingly about the potential of nuclear-powered submarine tankers:

"Nuclear power is a magic word insofar as submarine proponents are concerned. It is what they have been waiting for, and it is the key which, for the first time, opens the door on the possibility of the long-range commercial submarine. . .

"This door, which is now being opened, permits glimpses of many possibilities; the Maritime Administration is taking a good hard practical look at these possibilities."

The agency feels that optimum size for an atom sub tanker would be a 40,000-ton vessel with 40-knot speed. But it has under study vessels from 20,000 tons to 40,000 tons, with speeds ranging from 20 knots to 40 knots.

However, it's now felt that the first atom sub will be about half of optimum size, and will be used as an "information-collector" before larger size vessels are attempted.

Such slower speed sub tankers, according to the Maritime Administration, "can be constructed for much less than the faster vessels and should demonstrate the advantages and point to the solution of the actual problems of submarine construction for commercial operation."

The Maritime Administration has two firms, Aerojet-General Corp. and General Dynamics Corp., studying the feasibility of atom sub tankers. The companies' reports aren't due for some time yet, but the Maritime Administration proudly displayed some of their findings last week.

One of the atom sub designs is Aerojet's compartmentalized version (above, left). The submerged, torpedo-shaped body would carry the cargo and power plant. The thin strut would support a tear-shaped section to house crew and navigation equipment.

Just as interesting is General Dynamics' concept of the atom sub (above, right). A bit more conventional than Aerojet's, the General Dynamics vessel would look more like present-day atomic-powered submarines, but would be much bigger—up to 600 ft. long if it were a 20,000-tonner. (The longest atom sub—the Triton—is 447 ft. long.)

The Maritime Administration makes no bones about its feeling that such a tanker would have important advantages over a surface vessel:

- Power requirements. "Studies have been developed sufficiently to show that power requirements for submarine tankers are about the same as surface ships when traveling at about 20 knots. Above this speed, the gap widens, and submarines require much less power at 40 knots than surface ships.
- Wartime safety. "A submarine tanker is much safer than a surface tanker in case of war. National defense considerations could outweigh economic factors and lead to the development of a fleet of submarine oilers for mobilization purposes."
- Hydrodynamics. "Hydrodynamically, a submarine vessel is more efficient than a surface vessel at high speed. Based on present technology and available power plants, a submarine tanker of 35 or 40 knots speed and high cargo deadweight is a possibility. A surface tanker of equal speed and deadweight would be impractical mostly because of the very large power requirements."
- Immunity to weather. "A submarine cargo ship could maintain speed irrespective of the surface conditions of the sea."

However, the agency admits that there are still some mighty formidable operational problems to be solved before such a tanker can be put into operation.

Some of the more obvious hurdles to be overcome," it says, "relate to questions such as the commercial manning of ships like this, the application of safety regulations, particularly as concerns lifesaving, and what can be done about communications and electronic navigation aids such as radio, radar, and lonar."

But the most formidable problem of all seems to be: Who'll pay for building and operating the unprofitable first atom sub tanker—and how soon?

Studies have made it clear to the

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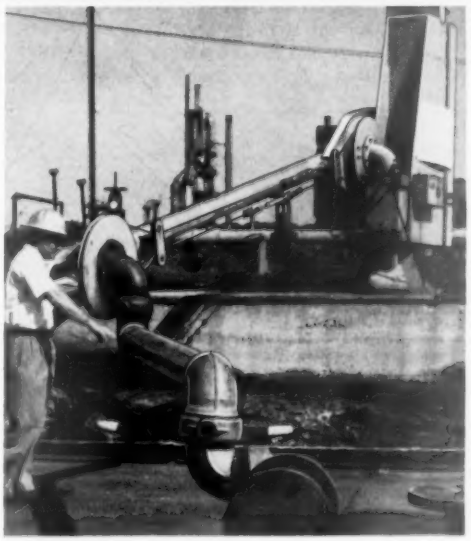

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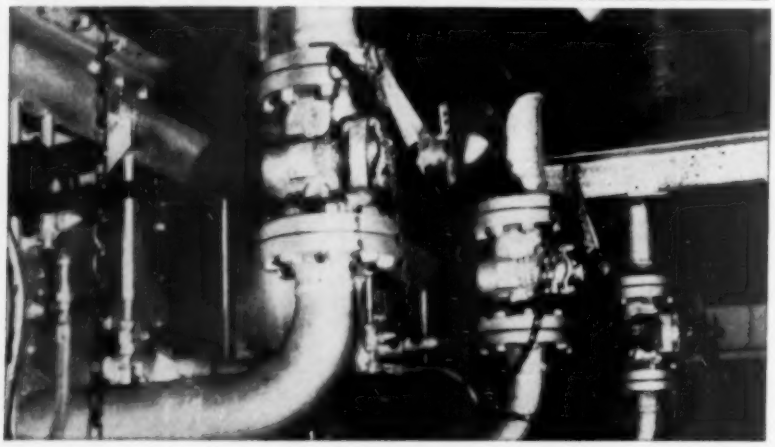

SIMPLIFIED VALVE OPERATION cuts errors

At a large refinery, operation studies showed that simplified valve operations resulted in greatly reduced flow control errors. A basic step in the simplification program was the installation of lubricated plug valves. Since these valves are fully opened and fully closed with an easy 90° turn of the lubricated plug, operation by wrenches, gearing and a wide variety of extensions is mechanically easy. And product contamination problems are eliminated by the leakproof seal of lubricant between the plug and body. The result: easy, fast, virtually foolproof flow control. For details on Rockwell-Nordstrom lubricated plug valves . . . the world's most complete line . . . write:

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TRANSCONTINENTAL GAS PIPE LINE CORPORATION

Maritime Administration that, "The cost of a 40-knot submarine tanker, although considerably less than that of a comparable surface ship, is nevertheless much too high to permit profitable transportation of liquid cargoes under present conditions."

So who will absorb the loss?

The Maritime Administration recently was rebuffed by the Budget Bureau when it sought to install an atomic power plant in a small surface tanker (PW—May23'58,p6). It would more than likely be batted down even more quickly if it asked for funds to build an atom sub tanker from the ground up—at a cost of about $50-million.

(In fact, Maritime now thinks it had better wait until fiscal 1961 before asking Congress for such an expenditure.)

Private interests are just as reluctant to spend such large sums on a non-profit-maker.

The most likely answer now appears to be a cost-sharing between the government and industry.

Maritime Administration officials intend to ask the next session of Congress for permission to share 50-50 the cost of building atom-powered tankers (PW—Oct.3'58,p14). The agency says that at least three major oil companies are willing to participate in building the vessels on this basis.

In addition, the Maritime Administration would like to see to it that companies participating with it in the construction of nuclear tankers also receive a government operating subsidy to help further in defraying the cost. Tanker operators have been eligible for such subsidies, but have felt that, without further government backing, present subsidies do not provide enough attraction for them to get into the atom-tanker business.

Another unresolved question on nuclear-powered sub tankers: Just how important would sub-polar tanker traffic be to the oil industry?

The Maritime Administration decided to report on the progress of its atom sub tanker after it was flooded with questions on the commerical possibilities of sub-polar shipping late this summer, in the wake of the Nautilus's successful sub-polar trip.

There's no doubt that submarine tankers could some day be of great help in taking oil from areas such as Alaska and moving it under the polar ice cap to European markets.

But if this kind of transportation is to be worth anything, large oil reserves will have to be found in such northernmost regions. So far, Alaska has only promised, not delivered.

Mr. C. J. Bender, President of Trinity Steel Co., and his latest 10,300-gallon propane transport built lighter and stronger with USS "T-1" Steel.

1,200 gallons ride free in this propane transport built from USS "T-1" Steel

This 10,300-gallon propane transport was built by Trinity Steel Company of Dallas, Texas. Mr. C. J. Bender, President, says: "The 12½% increase in payload capacity was made possible by the use of lightweight construction with USS "T-1" Constructional Alloy Steel. This can amount to as much as 1,200 extra gallons per trip which are carried free, since the gross weight remains the same. Our customers figure that the increased profits earned in the first season more than offset the small price differential involved."

The success of these large blimp transports has generated so much interest that many local LPG dealers are ordering "bobtail" or truck-mounted home delivery units with tanks made of USS "T-1" Steel. On these smaller tanks, payload capacity is increased as much as 50%. A new 3,000-gallon truck weighs no more than the old 2,000-gallon unit, while operating costs stay the same.

For code-governed applications, USS "T-1" Steel is furnished to 90,000 psi minimum yield strength. It is also available for non-code applications with a minimum yield strength of 100,000 psi. Its high yield strength coupled with exceptional toughness, weldability and resistance to atmospheric corrosion make it ideal for pressure vessels, tanks, derricks and equipment where great strength without bulk is required. *For complete information, write to United States Steel, Room 2801, 525 William Penn Place, Pittsburgh 30, Pennsylvania.*

USS and "T-1" are registered trademarks

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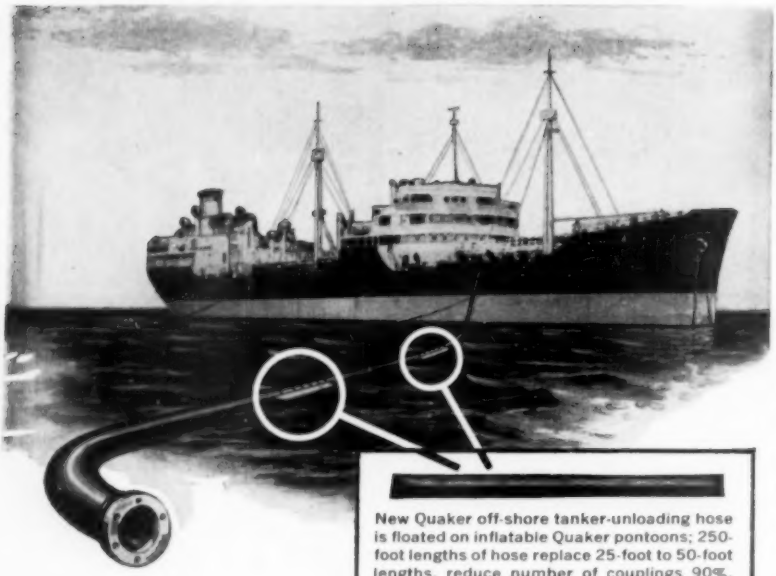

New Quaker off-shore tanker-unloading hose is floated on inflatable Quaker pontoons; 250-foot lengths of hose replace 25-foot to 50-foot lengths, reduce number of couplings 90%.

SMART WAY TO FLOAT SHIP-TO-SHORE HOSE:

Use this Quaker floater rig

The old nuisance of floating ship-to-shore oil hose on empty drums is finally licked. And Quaker licked it.

Now, with Quaker's new floater assembly, you do away with bulky, abrasive 55-gallon-drum pontoons . . . you reduce the number of hose couplings as much as 90% . . . and you make the loading or unloading of a tanker off shore a relatively simple job.

This assembly consists of a reel that propels 250-foot lengths of Quaker hose to or from the ship, floated on revolutionary *inflatable* Quaker pontoons which, deflated, take up only a quarter of the space once needed to store inconvenient, rustable metal drums.

It's a beauty of a time- and money-saver! Find out more about the Quaker-Porter Floater Hose Installation. Ask your Quaker industrial distributor for full information, or write *Quaker Rubber Division, H. K. Porter Company, Inc.; Philadelphia 24, Pa., or Pittsburg, California.*

19-foot Quaker pontoon hose folds up into less than ¼ the space taken up by drum.

H. K. PORTER COMPANY, INC.

QUAKER RUBBER DIVISION

What's New

IN TRANSPORTATION

The Federal Power Commission, in the 12 months ended June 30 of this year, authorized construction of 4,400 mi. of new gas transmission facilities and 424,000 hp. in compressor stations.

These upcoming facilities will cost about $518,822,000 and will add an estimated 2¼-billion cu. ft. of gas to the nation's daily delivery capacity.

FPC Chairman Jerome Kuykendall said last week that "a substantial majority" of the 337 expansion certificates approved by the commission during the period would increase the U.S. gas transmission systems' "ability to receive gas from producing areas; to inject and withdraw gas from the storage fields near the market areas; or to deliver gas through lateral lines extending from main lines."

•

It's definite now—Kerr-McGee Oil Industries, Inc., is buying another Oklahoma crude gathering system, its fourth this year.

Last week, Kerr-McGee concluded long-standing negotiations with Magnolia Pipe Line Co. (PW—Sep.19'58, p10) for purchase of that company's trunk line and gathering facilities in a seven-county area of south central Oklahoma.

The purchase includes about 50 mi. of small-diameter trunk line between Maysville and Wewoka, and 75 mi. of gathering lines handling about 3,000 b/d from the Salt Creek, Wewoka, and Olympic fields.

Magnolia will continue to take Oklahoma crude through systems in other parts of the state.

Earlier this year, Kerr-McGee bought gathering facilities in the state from Gulf Refining Co., Texas Pipe Line Co., and Pure Transportation Co.

•

Freeport Bunkering Co., Ltd., is building an offshore bunkering terminal with a loading rate of 5,000 bph. on Grand Bahama Island.

The terminal, which is scheduled to be in service by Jan. 1, is expected to draw off a good deal of the bunkering trade from several East Coast ports.

Freeport Bunkering says it has a ten-year agreement with Gulf Oil Corp. to supply bunker oil, and that it expects to dispense about 5-million bbl. of the product a year at the terminal.

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Task-Force 59 brings you more to work and save with in every weight class—more models, thriftier engines, stronger cabs and frames, safer brakes, tougher axles and transmissions! Here's the longest, strongest line of Chevrolet trucks ever built, the best yet of the best sellers!

Good news in the light-duty class! Chevy's longer, stronger '59 line gives you a *dozen* big pickups to choose from . . . new 4-wheel drive models, newly fashioned panels, Step-Vans, and Sedan Deliveries! Scores of innovations include new hard-pulling Positraction rear axle, new bigger brakes, new stronger cabs, new broad-shouldered styling refinements!

Bright new middleweight and heavyweight might! New big-tonnage L.C.F. and conventional trucks are heftier than ever with new 5-speed transmissions, new huskier clutches, more durable rear axles in capacities as high as 18,000 lbs.! G.V.W.'s go up to 36,000 lbs. in tandems . . . and up to 21,000 lbs. in new Series 50H and 60H models with heavy-duty components!

New thriftier 6's, all-new V8 power! Chevy's best selling 6's are set to pinch pennies like never before with new camshaft design, new valve train durability! *Six* modern V8's are tougher built for bigger savings; an all-new V8, the 185-h.p. Workmaster Special* with advanced Wedge-Head design, is offered in Series 70 and 80! See 'em for yourself—the bright new trucks of Task-Force 59 at your dealer's now! . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

**Optional at extra cost.*

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CHEVROLET TASK·FORCE 59 TRUCKS

Oil vs. Gas: The Fight Evens Up

As oil heat and natural gas lock horns for another heating season, oil's promoters are taking stock of the odds. Some of the recent gloom seems to have got less gloomy.

Only recently has the talk about oil heat's future been turning a bit more optimistic (PW—Sep.19'58,p92). Statistics for the past decade have not been heartening, with gas increasing its share of the market from 11% to 33%, compared to oil heat's growth from 26% to 44%. Just as disheartening to the oil heat marketer is the prediction that in ten more years oil and gas will have equal shares of the market (PW—May30'58,p14).

The aggressive promotional efforts of the gas industry, supported by public utilities, has been hard to match.

A new "fact file" on fuel oil and home heating, issued last week, may cheer some marketers with its predictions that gas will have a tougher time gobbling up new markets from now on.

This fact file was compiled by the National Fueloil Council, which was formed this summer as a promotional arm of Oilheating Market Reports. The American Petroleum Institute's fuel oil committee is behind both groups.

The fact file boils down, into 30 pages, many basic facts about competing home-heating fuels, predicts future market development, maps heating areas, analyzes fuel cost factors, and gives a breakdown on fuel consumption for homes. In short, it's a manual on home-heating fuels, but it also gives up-to-date market statistics.

One of the fact book's highlights is its prediction that the inroads of gas in the home heating market are due to level off. The council lists these factors:

- The average price of gas at the wellhead has climbed 365% since 1945, from 3½¢ per Mcf to 16.3¢ per Mcf in June of 1958. Some deals are now being made in the field at 23¢ per Mcf, the report says. Over the same period, crude oil has risen only 114%, according to the council.
- Expansion of gas into new markets will involve much more costly building of pipelines than was necessary in the postwar period.
- Gas is facing legal problems arising from government regulation, and the trend toward more stringent safety codes is boosting the cost of installing gas equipment.
- Competing fuels are sharpening their promotional tools to catch up with gas's efforts.

This information effort may well be the kick-off for the much-talked-about industrywide promotion of oil heat.

The Oil Heat Institute of America, the National Oil Jobbers Council, and other industry groups are stepping up their oil heat promotion.

The American Petroleum Institute's fuel oil committee is still studying the problem of channeling industrywide promotion of oil heat through one effort.

Local oil heat groups are stepping up promotion, too. On the Pacific Coast for instance, the Oil Heat Institute of Washington will concentrate its $20,000 public relations effort on selling oil heat to the "opinion-makers" in the area.

This OHI group surveyed the public attitude toward oil heat in western Washington and found that builders, architects, and other "opinion-makers" were giving their support to other fuels with lower installation costs. The OHI survey, however, showed a local home-owner preference for oil heat. And this is the pitch of the campaign to win the opinion makers.

OHI is offering merchandising materials free to builders in the form of signs pointing out oil-heated homes for sale, "Open House" signs, and consumer leaflets. These are also available to real estate firms.

The Washington OHI group also sends speakers to community and civic groups to talk up oil's investment in the development of the

Vehicles Up, but Growth Rate Lags

Total U.S. motor vehicle registrations for the year are expected to climb 1.9% above registrations for 1957, according to latest estimates from the Bureau of Public Roads. Total registrations for 1958 are estimated at 68,398,000—including 56,967,000 automobiles, up 1.9% over 1957; and 11,431,000 trucks and buses, up 1.8%.

However, the rate of growth in registrations has declined every year, since the automotive industry's peak sales year in 1955, the bureau notes. The rates of increase in the past five years have been: 1953, 5.7%; 1954, 4.1%; 1955, 7.2%; 1956, 4.0%; 1957, 3.0%. The biggest increases for 1958 are predicted in the West.

U.S. Motor Vehicle Registrations

(In thousands)

State	Registered 1957	Estimated 1958	% Increase
Ala	1,123	1,143	1.8%
Ariz.	489	523	6.9
Ark.	627	637	1.6
Calif.	6,832	7,069	3.5
Colo.	816	849	4.1
Conn.	1,008	1,021	1.3
D. C.	197	195	—0.9
Del.	171	180	5.4
Fla.	1,971	2,104	6.8
Ga.	1,320	1,340	1.5
Idaho	342	350	2.3
Ill.	3,513	3,555	1.2
Ind.	1,907	1,921	0.7
Iowa	1,221	1,236	1.2
Kans.	1,088	1,098	0.9
Ky.	1,106	1,131	2.3
La.	1,073	1,096	2.2
Me.	346	352	1.6
Md.	1,028	1,040	1.1
Mass.	1,672	1,695	1.4
Mich.	3,213	3,217	0.1
Minn.	1,446	1,468	1.5
Miss.	659	665	1.0
Mo.	1,578	1,605	1.7
Mont.	356	362	1.6
Neb.	664	676	1.8%
Nev.	147	153	3.9
N.H.	232	236	1.6
N.J.	2,166	2,188	1.0
N.M.	378	402	6.4
N.Y.	4,778	4,897	2.5
N.C.	1,563	1,571	0.5
N.D.	320	334	4.3
Ohio	3,794	3,863	1.8
Okla.	1,072	1,098	2.4
Ore.	831	848	2.1
Pa.	3,989	4,033	1.1
R.I.	320	324	1.1
S.C.	819	831	1.4
S.D.	330	333	1.0
Tenn.	1,160	1,179	1.6
Tex.	4,095	4,128	0.8
Utah	369	377	2.1
Vt.	145	147	1.7
Va.	1,352	1,379	2.0
Wash.	1,243	1,267	2.0
W. Va.	605	607	0.4
Wis.	1,479	1,490	0.8
Wyo.	181	185	2.1
TOTAL	67,136	68,398	+1.9%

state's business and industrial centers.

The public relations program is part of a $210,000 advertising program using billboards, newspaper ads, and TV and radio spots.

Improved oil heating equipment is another morale-booster. A new oil-fired water heater is winning new customers, according to the National Fueloil Council report.

The council's fact file points to new "gun type" water heaters developed by several manufacturers. These oil-fired water heaters, according to the report, heat water at the rate of 100 gal. an hour.

Another stride in equipment improvement was Gilbert & Barker's new low-cost burner introduced this summer (PW—Jul.4'58,p32).

The industry is putting new emphasis on the research that will lead to further improvements. The API fuel oil committee has a subcommittee working on a research plan for improving oil heat equipment, and for developing new uses for fuel oil. Another subcommittee is working on a program to foster public interest in oil heat.

"The real challenge," says one fuel oil expert, "is to get every distributor to gear his operations to a personal relationship with the customer. Insurance and service contracts are good, but they're just the frosting on the cake."

One fuel oil manager sums it up this way: "All this talk about figuring out the 'smart sell' adds up to one thing—a friendly relationship of the local supplier with his customers. If a driver sees a customer's fuel consumption go up unduly, somebody gets out there to see what's wrong. The gas industry can't do this; it just reads meters.

"Many distributors have this type of relationship already. But for every distributor who's done an outstanding job, there's another one who's not yet doing the job."

What's New / IN MARKETING

Richfield Oil Corp. is driving hard to boost sales of its "100-plus octane boron gasoline." Richfield is the first West Coast supplier to pick up Tidewater Oil Co.'s "100-plus" octane challenge (PW—May16'58,p62).

Prior to last week, Tidewater was the only West Coast supplier pegging its promotion on a 100-plus octane gasoline. On Sept. 29, Richfield started swinging with both fists: boron additive in one hand; 100-plus octane in the other.

•

Arkansas Fuel Oil Corp., subsidiary of Cities Service, has sold its Central Texas marketing facilities to Phillips Petroleum Co. The sale is part of move to shorten supply lines.

Cities Service has now pulled out of the Texas market—except in the eastern part of the state. The parent company recently sold its North and West Texas marketing properties to Cosden Petroleum.

Arkansas Fuel will now center its Texas sales efforts in the area adjacent to Louisiana—closest to the Cities Service refinery in Lake Charles, La.

The properties acquired by Phillips include 26 bulk plants, 13 company-owned stations, and 46 leased stations. Phillips plans to convert the properties to a jobber-type distribution soon.

•

Shell Oil Co. is putting new emphasis on training dealers to use oscilloscopes in engine tests and motor tuneups.

Shell is urging dealers to use the oscilloscopes—ranging in price from $100 to $725—as a cost-cutting measure. A car's ignition system can be checked in five minutes, and any problems pinpointed in line drawings on the scope's TV-like screen. Other engine problems can also be detected.

Sinclair Refining is also pushing motor tuneup work, and urging dealers to merchandise the engine analysis that is possible with oscilloscopes.

Subliminal?

A not-so-hidden persuader is wiping car windshields at Sun Oil Co. service stations. To help promote its custom blending, Sun ordered 18-million Scott Wipers, imprinted with the message, "What blend do you use?" The ink used? "Sunoco blue," of course.

Industry adoption of one standard base for service station pumps—now in the offing—would minimize the headache and expense of installing new pumps.

API's Operations & Engineering Committee is expected to approve the standard base adopted last week by a subcommittee.

If pump bases are standardized, station pumps could be interchanged without the cost of new plumbing, electrical conduits, and a torn-up driveway.

•

Mobil Overseas is making plans for installation of hydrant fuel systems at overseas airports to speed fueling of jet airliners.

Using high pressure refueling from remote underground tanks linked by pipeline to the loading area, the system will load 17,000 gal. of jet fuel in 15 minutes. Conventional fueling systems for large piston-engine planes deliver only about 7,000 gal. in the same time.

Installations are planned for Lisbon, Beirut, and Dakar, and possibly for Paris, Rome, and other airports.

•

National weighted average octane ratings for both premium and regular gasolines nosed slightly higher in September. Premium was 98.6 and regular was 91.4, according to Ethyl Corp.'s latest survey. Premium average was 0.1 higher than in August and 0.4 higher than a year ago. Regular gained 0.2 over August and 0.5 over September of 1957.

Guatemala Drilling Push Set to Start

GUATEMALA CITY—Five wildcats now definitely slated in the coming months by two U.S. majors and a Texas independent will give exploratory drilling its first big push.

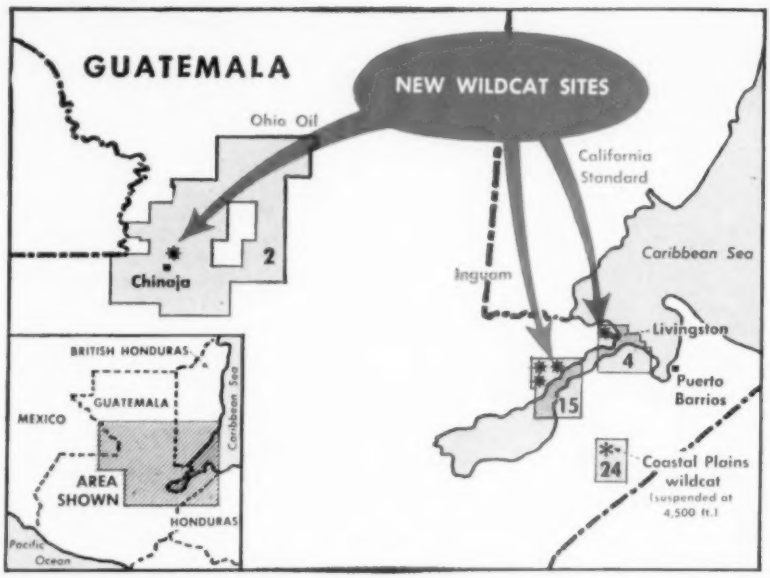
The operators with firm plans for their first wildcats are California Standard, Ohio Oil Co., and Inversiones Guatemaltecas Americanas (Inguam), which is backed by David C. Bintliff, of Houston.

Thus far, some 20 oil companies that hold exploration interests under Guatemala's 1955 oil code—mostly in Peten, the country's northern department—have concentrated largely on surface work. This work is continuing in Peten's roadless rain forests, where exploration is tough, costly and slow.

Like Guatemala's initial wildcat, four of the new tests will be drilled in Izabal; the other will be on the southwest edge of Peten.

This may signal the start of drilling in Peten proper as well. At least three majors operating there reportedly will let drilling contracts in the near future.

Drilling is also expected to resume early next year in Guatemala's first wildcat, which Coastal Plains Oil Corp. suspended at 4,500 ft. last spring on Right No. 24. At that time, the rig was airlifted into Peten to drill stratigraphic holes for Atlantic Refining Co. (PW—Jun.6'58,p29). The Coastal Plains wildcat, No. 1 Carlos Castillo Armas, was originally planned for 6,500 ft.



California Standard's first test will be a 7,000-ft. wildcat for the Livingston Joint Operation on Right No. 4 in Izabal.

California Standard and Bandini Petroleum are the major shareholders in this venture, with 20.5% and 19.2%, respectively. The other participants are: Signal Oil & Gas, Texaco, Peguasa (a Santa Fe Drilling Co. affiliate), Tidewater, Sohio, Atlantic, Continental, Ohio Oil, and Amerada.

Santa Fe Drilling Co. will drill the No. 1 Livingston on the north bank of the Rio Dulce, 1.8 mi. upriver from Livingston. Equipment is being moved in by barge, and actual drilling will be started when the rainy season ends, possibly by early November.

David C. Bintliff's Inguam has contracted for three wildcats totaling 20,000 ft. in the northern section of its Right No. 15, in Izabal.

Wilson Bros. Oil Co., of Dallas, is the contractor. Drilling will probably start around the end of the year.

Ohio Oil, operator for a four-company group, proposes drilling its No. 1 Chinaja to 13,500 ft. about 12 mi. east of the Mexican border on Right No. 2. This block spreads from Peten into Alta Verapaz. Interests are shared equally by Ohio Oil, Amerada, Continental, and Union Oil Co. of California.

Actual drilling will be started in the first quarter of 1959, and will probably be contracted, according to J. P. D'Artois, Ohio Oil's resident manager in Guatemala.

Ohio Oil's Chinaja operation typifies oil operators' heavy reliance on aircraft for exploration in Guatemala, particularly in Peten, which has no overland connection with the rest of the country.

D'Artois says Ohio Oil expects to

PLAN TO DRILL a 13,500-ft. wildcat at the edge of Peten is explained to Guatemala's President, Gen. Miguel Ydigoras Fuentes (right), by Ohio Oil's J. P. D'Artois.

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Once this boy would have lived a secluded life, far from the outside world. Today the world comes to his door. He learns many things, such as how power-driven machines can help him to meet the needs of his people.

Throughout Asia, Africa and the lands of the Pacific, new industries call for more oil. And Standard-Vacuum is doing its best to meet the demand. Stanvac finds the oil, transports and refines it, then delivers the finished products—all within the area where Stanvac operates.

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airlift the rig, auxiliary equipment, and tubular goods for the No. 1 Chinaja from Puerto Barrios.

It is already airlifting power wagons, trucks, small tractors, supplies, and personnel to Chinaja. It has an air strip close enough to completion there for use of its own C-47 plane and a C-82 box-car owned by Aviateca, Guatemala's national airline. A 5-mi. access road to the drill site is expected to be passable in November.

Other companies exploring in Peten are also using aircraft to move crews and equipment. Thus far, most operators are using locally available craft, including helicopters, while operations are in preliminary phases.

Refining Profits Shrink in Japan

TOKYO—Japan's refining industry is passing through the worst period in its postwar history, and one of the worst in its whole history, according to financial circles here.

This situation was emphasized last week when the Ministry of International Trade & Industry (Miti) announced reduced foreign exchange allocations for crude imports, and suggested new refining targets for the second six months of the current fiscal year, ending next May.

This is how the situation now stands:

• **Refiners' profits are about 50% of those of the same period a year ago.** All refiners, with the exception of one or two, have had to cut dividends.

• **Heavy inventories of imported crude are rapidly taxing Japanese storage facilities.** Prospects are that tankers will have to be used as temporary storage in the next few months. In fact, demurrage is already being charged on some tankers.

• **Product output far exceeds demand.** Despite Miti's usually strong hand in setting up "suggested" refining targets, the industry this year didn't fall into line with its recommendations until midsummer.

As a result, the price structure has been weakened. Gasoline prices, for example, have dropped sharply.

The government is now trying to lessen crude oversupply by reducing foreign exchange allocations for the coming six months. The total foreign exchange budget for oil imports for this period has just been set at $123,662,000—$17-million under the first half of the fiscal year.

About $108.5-million will go for roughly 54¼-million bbl. of crude. The rest is slated for about 4.8-million bbl. of fuel oil, to be delivered from November through next June.

The industry's problem is aggravated by over-chartering of tankers. This is largely a result of the Suez crisis, which prompted the Japanese—who normally maintain very low inventories—to sign up long-term charters. This is a principal cause of the flood of crude that has been coming onto the market.

These charters have been bringing in oil ahead of actual government foreign exchange allocations. "Advances" have been made as much as 20 days ahead of actual availability of exchange. This is legal under the Japanese system, but "highly undesirable" according to a petroleum association spokesman.

Present crude inventories are considered equal to a 30-day supply, even calculated on the basis of an optimistic consumption pattern.

Inventories have grown from about 7¼-million bbl. at the end of March to about 9½-million bbl. at the end of September. Miti asks, hopefully, that inventories be kept at the present level through next March. But there is not much likelihood that they will.

To cut crude inventories, the government has asked the industry to maintain total throughput at 290,000 b/d during the coming six months. This compares with 267,000 b/d in the six-month period just ended.

This may serve the purpose of cutting crude inventories, but it seems almost certain to increase the oversupply of refined products.

The Miti figure is 5,000 b/d more than the rate suggested by industry sources. Of Miti's suggested total, 256,000 b/d would be used domestically, and 34,000 b/d would be exported or used for petrochemical manufacture. (In addition, 7,000 b/d of domestic crude would be refined.)

Although the long-term outlook remains good, the prime reason for the refiner's plight now is the general downturn in the Japanese economy. Most Japanese industries participated in a huge expansion of plant facilities during the investment boom in 1956 and early 1957. Now there is overcapacity in steel, textiles, and most other basic industries.

Petroleum refining itself is presently plagued with at least 20% idle capacity.

What's New / AROUND THE WORLD

Nasser Cancels U.S. Oil Rights

SYRIA—United Arab Republic President Nasser this week canceled the oil permits in Syria held by Syrian-American J. W. Menhall. Atlantic Refining and Portsmouth Steel hold 50% interest in the permits.

Menhall had established a commercial oil discovery on the permits at Karatchok, near the Iraq border, but had been unsuccessful in protracted efforts to get development rights (PW—Sep.26'58,p48).

The Nasser decision followed swiftly on the heels of a UAR decree formally setting up Egypt's General Petroleum Authority with total jurisdiction over all oil affairs in Syria as well as in Egypt. It is empowered to engage in all oil operations itself.

The Syrian move, officially announced in Damascus, also froze all Syrian assets of two Menhall companies and banned any activity by them "until further notice." Meanwhile, government inspectors immediately moved into the Menhall work camp.

•

EGYPT—The Arab League's political Committee this week officially announced its fifth postponement of the Pan Arab Oil Congress, to Apr. 15, 1959.

Iraq and Kuwait had argued that they wanted more time to make concrete proposals for the congress, originally scheduled to be held Nov. 1 in Cairo.

Informed observers say, however, that the real reason behind the move is that the Arab oil producing states are not enthusiastic about Cairo's plan to make the Pan Arab Congress another spectacular blow against Western interests in the Middle East. Significantly, the Soviet Union is showing great interest in the oil congress, and has requested participation with observers.

New Lake Maracaibo Mud Plant Completed

Newest source of drilling mud products for Lake Maracaibo operators in Venezuela is this barite processing plant, now completed at Punta Camacho by Magcobar de Venezuela, a subsidiary of Magnet Cove Barium Corp., one of the Dresser Industries.

Crude ore is discharged at dock (1) on a 2,378-ft. conveyor belt and moved to the stockpile (2). Finished products go to a barge dock (3) for delivery to lake drill sites. The plant office (4) houses a two-way radio system to speed communication with warehouse stockpoints, lake barges, and mud engineers' cars.

FRENCH EQUATORIAL AFRICA—Two Socony Mobil affiliates have concluded their agreement with a French firm for joint exploration and development in Gabon and the Middle Congo (PW—Sep.12'58,p53). The areas concerned cover about 6.2-million acres.

The agreement by Mobil Oil Francaise and Mobil Exploration West Africa with Soc. des Petroles d'Afrique Equatoriale Francaise (Spaef) splits exploration, development, and any production costs 50% to Spaef and 25% to each of the Socony affiliates. The agreement is subject to approval of the French government (PW—Sep.19'58,p78).

•

IRELAND—Two U.S. independents have confirmed that negotiations are progressing with the Irish government for an oil concession covering the whole country.

Representatives of Ambassador Oil Corp., Ft. Worth, and Messman-Rinehart Oil Co., Wichita, Kan., are now in Dublin negotiating for the 26,000-sq. mi. concession.

•

PERSIAN GULF—A group of oil companies is setting up a permanent weather-forecasting system in the Persian Gulf to facilitate planning for offshore drilling.

Information from a system of weather and wave reporting stations and meteorological offices will be coordinated in London, according to British Petroleum Co.

•

RUMANIA—The country's first petrochemical plant will go into partial operation soon, according to Radio Bucharest. It will process refinery gas at Brazi, 50 mi. from Bucharest.

•

CZECHOSLOVAKIA—Refining capacity is targeted for 106,000 b/d by 1965. Plans for product output at that time are, roughly: gasoline, 18,300 b/d; diesel oil, 37,000 b/d; heating fuel, 39,200 b/d; and lube oils, 3,800 b/d.

•

EGYPT—An Egyptian economic mission to Japan apparently drew a blank in efforts to line up oil exploration investment for the Red Sea area.

The mission returned with a $30-million deferred-payment credit agreement from Tokyo. But the list of industries to benefit from this arrange-

ment did not include oil exploration or refining.

•

BAHAMAS—Oil rights for 300,000 acres of island and offshore areas have been acquired by Siebens Leaseholds, Ltd., of Calgary, bringing its total acreage to 824,800 acres.

The Canadian firm said last week that San Salvador, Conception, Little Inagua, and Rum are among several islands and cays included in the new exploration license. Last July it was awarded a two year license for 524,800 acres covering the northern half of Andros Is., including an adjacent submarine area.

•

VENEZUELA—Crude output edged up to 2,646,654 b/d in August, the highest average since August, 1957, when production was 2,751,474 b/d.

Ministry of Mines & Hydrocarbons figures show the following output by companies (in b/d):

Creole, 1,134,489; Shell, 691,379; Mene Grande, 377,873; Socony, 124,041; Richmond, 77,383; Sinclair, 59,380; Texaco, 52,415; Mercedes, 38,709; Superior, 30,314; Atlantic, 26,909; Sun, 12,017; Phillips, 11,255; San Jacinto, 8,381; Talon, 1,644; Continental, 314; Signal, 151.

•

EUROPE—The Council of the 17-nation Organization for European Economic Cooperation is standing firm on its recommendation for increased emergency oil stocks and storage capacity in western Europe, though the question of who bears the costs remains unsettled.

A spokesman in Paris emphasized last week that OEEC still maintains that stocks should be built up to a level of one month's supply above the consumption rate in the second half of 1957. The Council had recommended that each country consult its own oil industry and others to determine just how the stocks should be increased and storage capacity added.

The Paris spokesman denied that the plan has been dropped due to disagreement of member countries and refusal of oil companies to bear part of the costs.

•

INDONESIA—A ten-man Japanese survey team arrived last week to study possibilities of oil development in northern Sumatra.

Headed by a representative of Japan's semigovernmental Oil Resources Development Co., it includes experts from oil, trading, and engineering companies. Due to objections of the Japanese government, the principals represented are investigating individual ventures, rather than one joint deal.

It is not clear whether any of them may be involved in the $10-million rehabilitation program for the nationalized Royal Dutch Shell fields that Refining Associates Inc., of Los Angeles, announced it would help finance (PW—Oct.3'58,p73).

•

ARGENTINA—The latest plan for cutting down crude oil imports is a two-year, $66-million expansion of the gas line network to Buenos Aires from Comodoro Rivadavia.

Gas del Estado, the national gas enterprise, estimates that this will save Argentina $45-million annually in foreign exchange now being spent on crude imports. Capacity of the network will be boosted from the present 53-million cu. ft. daily to 212-million. The main line will be extended and several branch lines added to bring more gas to consumer and industrial centers from Santa Cruz, Chubut, and Neuquen provinces.

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GEOPHYSICAL SERVICE INC.

DEPT/Personals

GREER W. ORTON became assistant to Augustus C. Long, chairman of The Texas Co., New York, on Oct. 1. He was most recently manager of The Texas Co. (Iran), Ltd., with offices in London. Orton joined Texaco in 1928, and since then has served with various foreign subsidiaries and affiliated companies. He is succeeded by **H. H. Chandler,** formerly assistant manager in London. Chandler has been with Texaco for 26 years, mostly in the refining department. He was assigned to the London offices in 1957.

G. W. Orton

I. H. Hughes

I. HAYDEN HUGHES has joined Pan American International Oil Co. as general manager of operations in Argentina, with headquarters in Buenos Aires. Hughes was formerly vice-president of Sunray Mid-Continent Oil Co., Tulsa.

DR. JOHN E. KIRCHER was promoted to executive assistant to the senior vice-president of Continental Oil Co., with headquarters in Houston. Kircher was formerly general manager of Conoco's petrochemical department, in Houston. **E. R. Baker,** formerly manager of the research and development department at Ponca City, Okla., succeeds Kircher in the petrochemical department. **Dr. M. L. Sharrah,** formerly director of the petrochemical research division, Ponca City, succeeds Baker.

J. P. ZEPPA, Delta Drilling Co., Tyler, Tex., was named president of the American Assn. of Oilwell Drilling Contractors, at the association's meeting in Dallas, succeeding **J. U. Teague,** Columbia Drilling Co., Houston. Five new vice-presidents of AAODC are: **George P. Livermore,** Livermore Drilling Co., Lubbock, Tex., national vice-president; **Ray Wiley,** Ray Wiley Drilling Co., Carmi, Ill., vice-president for cable tools; **A. Earl White,** Mustang Drilling Corp., Tyler, vice-president for cretaceous and tertiary basins; **E. F. Fullen,** Mallard Well Service, Lafayette, La., vice-president for well servicing; and **W. W. Hawkins,** Win Hawkins Drilling Co., Lafayette, offshore vice-president. Seven regional vice-presidents of AAODC are: **H. Don Johnson,** Carl B. King Drilling Co. of Texas, Midland, West Texas and New Mexico; **Morris McDannald,** Mac Drilling Co., Houston, Gulf Coast; **Frank G. McClintock,** Zephyr Drilling Corp., Tulsa, Mid-Continent; **F. M. Stevenson,** Signal Drilling Co., Denver, Rocky Mountains; **W. D. Tetsch,** Terminal Drilling & Production Co., Los Angeles, vice-president for California; **Don Slape,** Don Slape Drilling Co., Olney, Ill., vice-president for Illinois, Michigan, Indiana, and Kentucky; and **M. G. Rowe,** Rowan Drilling Co., Fort Worth, North and West Texas. **Marion S. Church,** Dallas, was named general counsel. **Brad Mills,** Dallas, will continue as executive vice-president until January, 1959, and after that time will remain with the association in an advisory capacity.

JOHN PRESTON WILEY has been elected a director of Esso Transportation Co., Ltd., London. He replaces **E. H. Cronham,** who is returning to the transportation coordination department of Standard Oil Co. (N.J.), in New York, later this year.

IRVING G. USHER has become assistant manager of the distribution department for Standard Oil Co. of California, Western Operations, Inc., with headquarters in San Francisco. He was most recently assistant to the vice-president in charge of supply and transportation. In his new position, Usher will coordinate distribution of crude oil from field to refinery, and finished products from refinery to marketing outlet.

JAMES L. McCULLEY, division sales manager, Continental Oil Co., Albuquerque, was elected chairman of the New Mexico Petroleum Industries Committee for 1958-59, at the committee's recent meeting in Albuquerque. **Cecil McNutt,** vice-president of El Paso Natural Gas Products Co., El Paso, Tex., was elected vice-chairman, and **Amos E. Martin,** district sales manager for The Texas Co., Albuquerque, was elected treasurer.

JACK D. HEAD, Houston attorney, has been named vice-president and general counsel of Texas Eastern Transmission Corp., succeeding **Charles I. Francis,** who has retired. Head, a member of the law firm of Vinson, Elkins, Weems & Searls, has been Texas Eastern's assistant general counsel since 1956.

J. D. Head

J. W. Whitney, Jr.

J. W. W. WHITNEY, JR., was promoted to general production superintendent of White Eagle Oil Co., Tulsa, on Oct. 1. Whitney joined White Eagle in 1955 as chief engineer of the company's waterflood department, and was most recently chief production engineer.

CHARLES W. GUY has rejoined General Gas Corp., Baton Rouge, as executive vice-president and a director, and was also named to similar posts with Delta Tank Mfg. Co., a General Gas subsidiary. Guy was most recently associated with Texas Natural Gasoline Corp., Tulsa, as vice-president and treasurer. Guy was executive vice-president and a director of General Gas prior to his resignation in 1954.

C. W. Guy

R. A. Hunter

R. A. HUNTER has been elected administrative vice-president in charge of marketing for Gulf Oil Corp., Pittsburgh, and has also been named chairman of Gulf's marketing council. Hunter will retain his former responsibilities as coordinator of marketing. He has formerly served as assistant to the vice-president in charge of domestic marketing, and as general manager of retail and jobber sales.

CARL A. SETTERSTROM has been appointed to the newly created position of assistant director of commercial development in Sun Oil Co.'s research and development division. For the past three years, Setterstrom has been special projects manager for Chas. Pfizer & Co., and previous to that was general manager of the textile fibers development at Union Carbide Corp.

M. L. HAGAN is manager of American Climax Petroleum Corp.'s Tulsa division. Hagan succeeds **L. L. Brundred,** who retired on Oct. 1. Hagan was formerly the company's production superintendent responsible for waterflood production in Texas, Oklahoma, and Kentucky.

MERLE BECKER has announced the formation of Becker, Davis & Pyle, Inc., Dallas, for the acquisition of oil properties for secondary recovery operations. Becker's associates are **William H. Davis,** formerly secondary recovery manager for D. D. Feldman Oil & Gas, Dallas, and **Foster M. Pyle,** formerly production manager for Feldman. Becker has been general manager for Feldman, and is a past president of the Independent Petroleum Assn. of America.

W. JOSEPH STRAUS has been elected a director of Britalta Petroleums, Ltd., Canadian independent oil company in Calgary. Straus, economist and financial adviser to **William Rosenwald,** chairman of American Securities Corp., is also a director

of that company, and of American Machine & Metals, Inc., Haveg Industries, Inc., and Texas Butadiene & Chemical Corp.

HOBERT E. BOOMER has been named superintendent of pipelines for Texas Illinois Natural Gas Pipeline Co., Chicago, succeeding **Keith Bentz,** who was elected vice-president of operations. Boomer was most recently assistant field superintendent of gathering lines for Texas Illinois' affiliate, Natural Gas Pipeline Co. of America, at Fritch, Tex. **Dale A. Schafersman** has been named field superintendent of Texas Illinois' compressor stations, with headquarters in Malvern, Ark. He succeeds **Don T. Lutz, Jr.,** who is now director of employee and public relations at the company's office in Chicago. Schafersman has been superintendent of station 201 for Natural Gas Storage Co., also a Texas Illinois affiliate, with headquarters near Herscher, Ill.

H. E. Boomer

W. L. Solt

WILLIAM L. SOLT was named director of advertising for Goodrich-Gulf Chemicals, Inc., Cleveland. Solt was most recently sales promotion specialist for B. F. Goodrich Tire Co., in Akron. Previous to that, Solt was in the advertising section of Mohawk Rubber Co., Akron.

PHILIP M. CORDELL, JR., has been appointed manager of the newly created crude oil supply department of Texas Gas Corp., in Houston. Cordell was named coordinator and economist of Texas Gas in 1956, and previous to that was economist for Ford Motor Co.'s tractor and implement division, in Birmingham, Mich.

A. C. DAHL has been named manager of Shell Oil Co.'s new Lafayette (La.) production division. He was formerly manager of the Lake Charles division, which has been combined with the Franklin division to form the new Lafayette division. Other members of the new division include: **L. C. Becker** and **C. E. DeWitt,** production superintendents; **G. S. Kukuchek,** mechanical engineer; **F. G. Phillips,** exploitation engineer; **J. A. Shattuck,** drilling foreman; and **Keith Doig,** gas superintendent. **M. E. Ohsfeldt** is office supervisor, and **R. A. Todd** is purchasing-stores supervisor.

GEORGE W. FIELD became manager of exploration for the Southern division of Cities Service Oil Co. (Del.), in Houston on Oct. 1. He succeeds **H. Ben Cox,** who retired on that date. Field was named assistant division geologist at the Southern division in 1953, and became division geologist there earlier this year. **Perry E. Barnhart,** formerly geologist at Lafayette, La., succeeds Field.

LOUIS HAACKE is manager of Socony Mobil Oil Co.'s distribution department, in New York. Haacke was most recently on special assignment in the distribution department. Before that, he was manager of distribution for Mobil Overseas Oil Co.

W. L. WILLIAMS has been named treasurer and assistant secretary, and **B. Z. KASTLER, JR.,** secretary and assistant treasurer, of Mountain Fuel Supply Co., Salt Lake City, succeeding **L. Clyde Olpin,** who has retired as secretary and treasurer. Williams was formerly assistant secretary and assistant treasurer. Kastler, Mountain Fuel's attorney since 1952, will continue to direct the company's legal affairs, although additional responsibilities of the attorney's office have been assigned to **John Crawford, Jr.,** assistant attorney.

EDWIN F. MORELLO was appointed group leader at the Whiting (Ind.) research laboratories of Standard Oil Co. (Ind.). Morello has been active in research on solid propellants for aircraft and missiles and, in his new position, will direct a phase of this work.

PAUL LOGUE joined the development department of Monsanto Chemical Co.'s research and engineering division as manager of market research on Oct. 1. Logue has been assistant director of development for Monsanto's inorganic chemicals division since 1957.

BEN SMITH, JR., has been appointed to the new position of director of services for Murphy Corp., El Dorado, Ark. Smith will be responsible for the coordination of personnel and purchasing and the management of employee benefit plans for Murphy and its affiliates. Smith has been personnel director for Lion Oil Co., also in El Dorado.

M. F. GRANVILLE has been appointed general manager of The Texas Co.'s petrochemical department in New York. Prior to his new appointment, Granville was superintendent of the chemicals division of Texaco's refinery in Port Arthur, Tex.

E. R. DOWNS has been promoted to superintendent of Ohio Oil Co.'s Shreveport production division. Downs, assistant division superintendent in Shreveport since 1953, replaces **R. W. Fawcett,** who has retired.

JOHN M. HOPKINS is the new general superintendent of operations for Union Oil Co. of California at its Oleum refinery, Rodeo, Calif. Hopkins was formerly manufacturing coordinator at Union's head office in Los Angeles.

ANDREW G. ALPHA has been named exploration coordinator at the general offices of Signal Oil & Gas Co., in Los Angeles. Alpha joined Signal in 1953 as a geologist for the Rocky Mountain and Canadian area, with headquarters in Denver.

EDWIN L. KENNEDY, partner in the investment banking firm of Lehman Bros., New York, and **BERNARD M. SILBERT,** president and general counsel of Pacific Uranium Mines Co., Los Angeles, have been elected directors of Kermac Nuclear Fuels Corp., Oklahoma City. Kennedy is also a director of Kerr-McGee Oil Industries, Inc., Republic Natural Gas Co., Murphy Corp., and the Independent Petroleum Assn. of America. Silbert is a member of the board of Ambrosia Lake Uranium Corp.

D. R. ZACHRY has resigned as executive vice-president of American Petrofina Co. of Texas, Dallas, southwest subsidiary of American Petrofina, Inc. Zachry joined Petrofina in 1957, following its acquisition of American Liberty Oil Co. properties. Zachry had been executive vice-president of American Liberty.

DEWITT COFFEY has become district superintendent at Hobbs, N. M., for Tennessee Gas Transmission Co. Coffey, formerly district production foreman in Oklahoma City, succeeds **D. P. Dampf,** who has become production superintendent in the new Shreveport district.

ELMO J. BLALOCK has been named manager of marketing for Continental Oil Co.'s Dallas district. He succeeds **J. W. Simmons,** who has transferred to a similar position in the Fort Worth district. Blalock joined Conoco in 1949 as a merchandiser at Stillwater, Okla., and most recently served as manager of the Tyler (Tex.) district.

FRANK LINDEMAN, JR., has joined United Carbon Co., Charleston, W. Va., as manager of its oil and gas division. He is also executive vice-president of United Producing Co., United Carbon subsidiary, and has charge of that company's exploration, drilling, production, and associated activities. Lindeman was most recently vice-president and a director of Pan American Petroleum Corp.

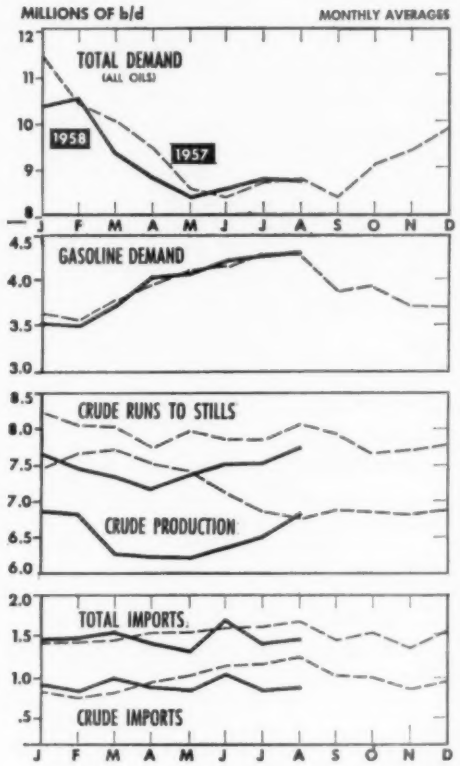
F. Lindeman, Jr.

H. G. Schutze

DR. H. G. SCHUTZE has been promoted to research associate at Humble Oil & Refining Co.'s research and development division in Baytown, Tex. Schutze is in charge of the research specialist group engaged primarily in polymer research.

PETROLEUM WEEK'S

Fingertip Figures



Supply-Demand Figures for September

(millions of b/d)

	September 1958	% Change from year ago	9 Months 1958	% Change from year ago
Total Demand (Inc. Exports)	8.674	+3.8	9.046	—3.0
Gasoline	4.078	+4.6	3.963	—0.2
Distillates (Inc. Kerosine)	1.495	—3.8	1.977	—1.9
Residual	1.301	+3.9	1.435	—9.5
Total Supply	9.449	+3.2	8.966	—6.7
Domestic Crude	7.058	+2.3	6.586	—9.4
Nat. Gas Liquids	.825	+3.9	.786	—2.1
Total Domestic	7.883	+2.5	7.372	—8.8
Crude Imports	.977	—6.9	.929	—7.2
Total Imports	1.566	+7.3	1.594	+3.9

RUNS TO STILLS
Latest week 7.507
Previous week 7.639
Year ago 7.779

CRUDE PRODUCTION
Latest week 7.014
Previous week 7.100
Year ago 6.812

TOTAL IMPORTS
Latest week 1.721
Previous week 1.927
Year ago 1.116

CRUDE IMPORTS
Latest week 1.020
Previous week 1.320
Year ago .772

Total demand in September, averaging 8,674,000 b/d, showed the largest gain over a year ago of any month this year.

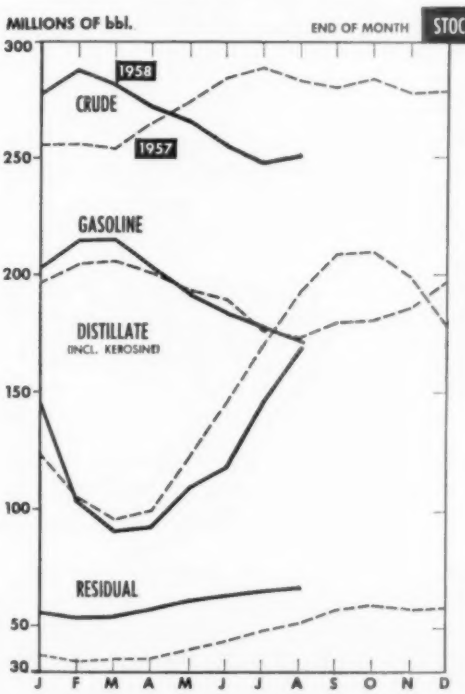
The 3.8% gain in demand over last September was not surprising, however. Last September, demand for all petroleum products was exceptionally weak, and was lower than August, as a glance at the chart (top, left) will show.

Total demand last month was nearly 100,000 b/d below the volume in August, which, like the situation last year, was a contraseasonal movement.

Total new supply in September, averaging 9,449,000 b/d, showed its first year-to-year gain of 1958.

The increase of 3.2% over last September was accounted for by a 2.5% gain in domestic output of crude and natural gas liquids and a 43.7% gain in imports of finished products, to an average of 589,000 b/d. Crude imports were down 6.9% from last year to 977,000 b/d, just slightly above the voluntary plan allocation.

Crude imports in September were 50,000 b/d higher than in August.

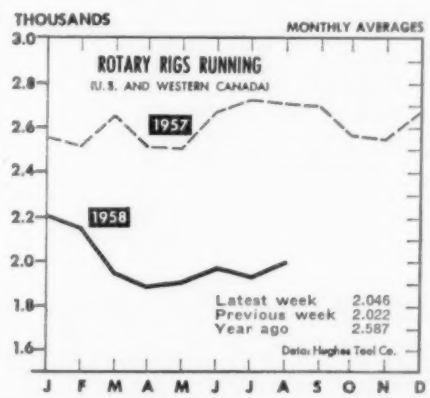


STOCKS: CRUDE
Week-ended 9-27 248.0
Previous week 242.6
Year ago 284.0

GASOLINE
Latest week 172.5
Previous week 173.5
Year ago 177.4

DISTILLATES
Latest week 187.8
Previous week 184.6
Year ago 207.1

RESIDUAL
Latest week 68.7
Previous week 69.6
Year ago 58.1



The Market Trend

That Queasy Feeling Doesn't Go Away

A too-familiar malaise seems to be creeping back into the markets this week. As one veteran trader puts it, "There's too blankety-blank much oil around." And many sellers would agree that oil, second to water, is the most plentiful liquid in the world.

Too many products have eased, and not enough have firmed, to point to a strong market in the immediate future. Gasoline and heavy fuel—roughly two-thirds of the barrel—have slipped off in price in most areas in recent weeks. Distillates look strongest of all. But, as always at this time of the year, the future of No. 2 fuel is in the hands of the weather man.

Clearest indication that f.o.b. prices still are teetery is the renewed emphasis on delivered-price deals, spot and contract. The fact that Gulf Coast gasoline is increasing in volume in Chicago says that sellers are cutting corners somewhere. Pipeline rates can't be shaded; and barge rates are firming a bit. Thus, the refiner's return must be suffering somewhere along the line.

Too many f.o.b. listings look odd because the oil can't go anywhere at current price levels. It's hard to see how Oklahoma gasoline quoted at 12¢ can reach Chicago, where truck prices are 11.625¢. Nor can spot bunker "C" fuel at the Gulf do much good at $2.00 when the delivered-cargo price at New York—its largest market—is no higher than $2.09.

It's bothering traders, too, that the selling pressure seems stronger, and prices look easier, than the inventories might indicate. On the other hand, it's no secret that three majors are looking for high-volume accounts on the East Coast. Others are dickering with wavering customers for controlled outlets.

The selling pressure has its reasons, traders suspect. Many refiners seem to be laying out their lines so as to have high refinery runs. We are in the period when refinery runs could earn credits toward future imports.

Mid-Gravity Crudes Hit: Shell of Venezuela extended the recent crude oil reductions in Venezuela to include middle-gravity oils in its reductions last week. Heavy crudes were cut 15¢ to 25¢ a bbl., and crudes up to 24-gravity were reduced 10¢.

L.A. 'Gas' Prices: A bright spot in the price picture was the increase in gasoline prices in Los Angeles last week, up 0.25¢ to 11.25¢ for regular at the rack level of supply. Sellers, too, were heartened by removal of many hidden discounts, some of which were as large as 0.75¢.

Brooklyn Rack: No. 2 fuel is a little queasy in the New York harbor area. Last week, several sellers started giving 0.25¢ "allowances" to rack buyers in Brooklyn. The new net price was 9.7¢.

1100 Avlubes: The military got lots of offers when it asked for 7-million gal. of Grade 1100 aircraft engine lubes last week. Some of the prices were as low as 17.02¢ a gal. A feature of the bidding was that several offerers telegraphed reduced offering prices after placing their written bids.

The Market Place

AROUND THE WORLD

Prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service and National Petroleum News, McGraw-Hill Publications

All prices as of October 6

Bold face type indicates changes from previous week

KEY PRICES—REFINED PRODUCTS

(¢ per gal. except dollars per bbl. where $ is shown)

Western Hemisphere

U.S. Gulf Coast, cargoes
- Gasoline, 98 oct prem....12-12.875
- **Gasoline, 92 oct reg....10.5↓-11.5**
- Kerosine....8.875-9.125
- Heating oil, No. 2....8.625-9
- Gas oil, 48-52 d.i....8.875-9.5
- Fuel oil, bunker "C"....$2.00-2.25

Caribbean, cargoes
- Avgas, Grade 100/130....16
- **Gasoline, 93 oct research prem....10.75↓**
- **Gasoline, 87 oct research reg....9.875↓**
- **Gasoline, 79 oct research....9.125↓**
- **Gasoline, 70-72 oct motor method....9↓**
- Kerosine....9.125
- Heating oil, No. 2....8.625
- Gas oil, 48-52 d.i....8.875
- Fuel oil, bunker "C"....$2.00

New York Harbor, barges
- Kerosine....9.95-10.2
- Heating oil, No. 2....9.45-9.7
- **Fuel oil, No. 6....$2.37↑-2.45**

Okla-Group 3, northern shpt., bulk
- Gasoline, 89 oct reg....12-12.75
- Kerosine....10-10.5
- Heating oil, No. 2....9
- Fuel oil, No. 6....$1.40-1.45

Chicago, bulk
- Gasoline, 91 oct reg....11.5-12
- Heating oil, No. 2....9.5-11.35
- Fuel oil, No. 6 high sulfur....6.9-7

Los Angeles, rack
- **Gasoline, 88 oct reg....12.25↑-13.6**
- Diesel fuel, PS 200....10-11.25
- **Light fuel, PS 300....$2.80↓**
- **Heavy fuel, PS 400....$2.15↓-2.35↓**

Natural Gasoline, Grade 26-70
- FOB Group 3....4.5
- FOB Breckenridge, Tex....4

LP-Gas
- Propane, Oklahoma (Group 3)....5

Pennsylvania Lubes
- Bright stock, 25 p.t....22
- 200 vis. neutral, 25 p.t....21

Mid-Continent Lubes, Tulsa basis
- Bright stock, solvent, 95 v. i....23-24
- Neutral, solvent, 200-210 vis....19.5-20.5

Gulf Coast Lubes
- Bright stock, solvent, 95 v. i....24
- Neutral, solvent, 200 vis....20.5

Eastern Hemisphere

Singapore (Pulau Bukom), cargoes
- Avgas, grade 100/130....17.25
- Gasoline, 79 oct research....10.375
- Kerosine....10.375
- Gas oil, 48 d. i. minimum....10.25

KEY PRICES—CRUDE OIL

(2¢ differential per deg. of grav. applies except as noted)

Western Hemisphere

United States (at the well)
- Mid-Continent, 36.0-36.9....2.83-3.07
- North Dakota, 36.0-36.9....3.07
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9....3.50
  - Gulf Coast, Upper & Lower, 26.0-26.9....2.92-3.22
  - West Texas, sweet, 36.0-36.9....3.00-3.07
  - West Texas, N. M., inter., 36.0-36.9....3.00
  - West Texas, N. M., sour, 32.0-32.9....2.86
  - East Texas, flat....3.25
  - Mirando, 28.0-28.9....3.31
- Illinois Basin, flat....3.00
- Pennsylvania Grade, Bradford dist., flat....3.90
- **California, Signal Hill, 21.0-21.9....2.50†↓**
- North Louisiana-Arkansas, 36.0-36.9....2.82-3.02
- Wyoming, sweet, 36.0-36.9....2.90-3.00
- Wyoming, sour, 32.0-32.9....2.71

Canada (flat prices, at the well)
- Acheson-Stony Plain (Alta.)....2.61
- Leduc-Woodbend (Alta.)....2.67
- Redwater (Alta.)....2.56
- Daly (Man.)....2.39
- Smiley (Sask.)....2.33

Venezuela (Cargoes, FOB lifting port designated)
- Cumarebo, 48.0-48.9, Tucupido....3.75
- San Joaquin, 41.0-41.9, Puerto la Cruz....3.34
- Oficina, 35.0-35.9, Puerto la Cruz....3.05
- Tia Juana, Medium, 26.0-26.9, Amuay....2.55
- **Bachaquero, flat, Las Piedras....1.78↓-2.05↓**
- Tarra, 38.0-38.9, San Lorenzo....3.08
- **Lagunillas Heavy, flat, Cardon....2.10↓**

†*Differential per deg. of grav. varies.*

Eastern Hemisphere

Middle East, Persian Gulf (Cargoes, FOB lifting port)
- Arabia, 34.0-34.9, Ras Tanura....2.08
- Safaniya, 27.0-27.9, Ras Tanura....1.65
- Iran, 34.0-34.9, Bandar Mashur....2.04
- Iran, 34.0-34.9, Abadan....1.99
- Iraq, 35.0-35.9, Fao....1.98
- Kuwait, 31.0-31.9, Mina-al-Ahmadi....1.85
- Qatar, 41.0-41.9, Umm Said....2.23
- Neutral Zone, Burghan, 23.5-24.4, Mina Saud....1.61
- N. Zone, Eocene-Ratawi, 20.5-21.4, Mina Saud....1.43

Middle East, Eastern Mediterranean
- Arabian, 36.0-36.9, Sidon....2.49
- Iraqi, 36.0-36.9, Tripoli, Banias....2.49

Far East, Cargoes, FOB Lutong, Sarawak
- Seria Light, 37-38....2.75

KEY TANKER RATES

(Last paid, per long ton, single voyage)

- **U. S. Gulf-New York, clean (USMC —10%) $2.57↓**
- U.S. Gulf-New York, dirty....(USMC —5%) $2.71
- **NWI-USNH, dirty....(USMC —50%) $1.35↓**
- NWI-UK/Cont., dirty....(Scale —50%) 16/3*
- Persian Gulf-UK/Cont., dirty....(Scale —55%) 27/9*
- **Persian Gulf-USNH, dirty (USMC —65%) $4.44↓**

**Sterling.*

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Baker Oil Tools, Inc. 20
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Hubbard 2-7160

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Superior 1-7000

Denver 2 — J. W. Patten
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522 South Boston
Gibson 7-5594

England, London E. C. 4 — E. E. Schirmer
McGraw-Hill Co., Ltd.
95 Farrington St.

DEPT/Service & Equipment Companies

J. V. PENNINGTON has been elected president of Globe Oil Tools Co., Los Nietos, Calif., succeeding **Mrs. C. E. Whittaker,** who continues as chairman of the board. Pennington, most recently a management and engineering consultant, has been a vice-president of Reed Roller Bit Co., Houston. Other newly elected Globe officers are: **C. R. Whittaker,** vice-president; **L. I. Wardle,** vice-president of sales; **A. E. Drennen,** secretary; and **F. C. Weigel,** treasurer.

J. V. Pennington

F. C. Koch

FRED C. KOCH was elected a director of Universal Oil Products Co., Des Plaines, Ill. Koch is president of Koch Oil Corp., Rock Island Oil & Refining Co., and a director of Northern Natural Gas Co., Omaha.

ED SIEVER has been appointed Mid-Continent sales manager of H. C. Smith Oil Tool Co., Compton, Calif. He will supervise all company sales activities except those in Pacific Coast states. Siever has been with H. C. Smith for the past three years, and prior to that was sales manager for H. C. Smith's West Texas distributor, Smith Bit Distributing Co. **E. A. Kunnemann** has become Mid-Continent sales engineer, with temporary headquarters in Houston. He was formerly associated with the Security Engineering Division, one of the Dresser Industries, and with Hughes Tool Co. Three new Smith regional managers include: **R. E. Griffin,** formerly district manager at Hobbs, N. M., southwest region; **Bill Brandt,** formerly Kansas division manager, northwest region; and **Cleve Holt,** formerly division manager in the Texas Gulf Coast, Texas Gulf Coast region.

J. E. WATSON, JR., became New Orleans district manager for Allis-Chalmers Industries Group, Allis-Chalmers Mfg.Co., on Oct. 1. He replaced **R. F. Muller,** who retired on that date. **W. E. Scott,** sales representative in the Charlotte (N.C.) district since 1952, replaces Watson as manager of the Miami district.

J. C. THOMPSON has joined the Anaco sales section of United Oilwell Service S.A., Venezuela, subsidiary of Dow Chemical Co. **H. D. Monical** succeeds Thompson as station manager for the Dowell Division of Dow Chemical at Hays, Kan. Monical was formerly Dowell's service engineer at Winfield, Kan.

P. B. MARTIN has been named to the new position of sales manager of Sooner Pipe & Supply Corp., Tulsa. Martin has been with Sooner Pipe since 1955.

11 INTERNATIONAL GUESTS attended the September meeting of the Houston Nomads. The four visitors sitting in the front row are (l. to r.): **Carlos Amorim,** Petrobras, Brazil; **Robert Ford,** Schlumberger Surenco, Venezuela; **R. Henderson,** Henderson Oil Well Drilling Co., Trinidad; and **George S. Ormsby,** Pioneer Specialties, Inc., Houston. The visitors in the back row include (l. to r.): **L. Camacho,** Bolivian Consulate, Houston; **Richard Engebrecht,** Asiatic Petroleum Co.; **W. W. Gehrig,** Reed Roller Bit Co., Berlin; **Reeves Morgan,** Socony Mobil Oil Co., Turkey; **Andre Casassus,** CFPA, Algiers; **W. H. Archer,** Southeastern Drilling Co., Turkey; and **Ralph Redd,** also Southeastern.

C. J. WILSON has joined B-I-F Industries, Inc., Providence, R. I., as eastern regional engineer. He will be engaged in the development and utilization of the company's line of petroleum metering and controlling equipment used on pipelines and in refineries. Wilson, from Pasadena, Calif., has been associated with Union Oil Co. of California, Griscom-Russell Co., and C. F. Braun Co.

C. J. Wilson

J. C. Cunningham

JOE C. CUNNINGHAM has been appointed to the new position of manager of personnel and training at Continental-Emsco Co.'s Garland (Tex.) plant. Cunningham was most recently job analyst and salary administrator at the company's home office, in Dallas.

JACK C. NORTON has joined Tyson Smith Co., one of the Smith Industries, as sales manager of the oil and gas division, with headquarters in Houston. For the past year, Norton has been manager of export sales for Oil Center Tool Co., also in Houston. Previous to that, he was OCT's manager in the North Texas-Oklahoma district.

W. A. (Bill) DAVIDSON was named assistant sales manager of Herb J. Hawthorne, Inc., Houston manufacturer of rotary drill bits for the seismic drilling industry. Davidson joined Hawthorne earlier this year as a sales representative.

W. A. Davidson

L. A. McGowan

LOUIS A. McGOWAN is chief assistant engineer of the Barberton Division, Rockwell Mfg. Co., Pittsburgh, manufacturer of lubricated plug valves. He has been chief engineer at Rockwell's DuBois (Pa.) gas meter plant since 1950.

DR. THOMAS M. STOUT has been named manager of the process applications department, **JAMES A. TRAPP** manager of the data processing and controls department, and **WILLIAM S. AIKEN** manager of the project engineering department, in the new engineering division of Thompson-Ramo-Woldridge Co., Los Angeles. Aiken will also serve as acting manager of the programming department, the fourth in the new division.

KENNETH SHELLMAN has been named manager of Grant Oil Tool Co.'s new branch in Liberal, Kan. Shellman, a field engineer with Grant for 17 years, will be responsible for sales and service of Grant products in Southern Kansas and the Texas Panhandle.

DON WALTERS was appointed Odessa district manager of Western Co., responsible for sales and operations functions in that district. Prior to his new position, Walters was assistant Midland division manager.

STAN BOBOWSKI is zone sales manager of Motorola Communications & Electronics, Inc., in the Panhandle area, handling the sales of two-way radio and other electronic equipment. He was formerly communications representative in that area.

WHITSON ENGINEERING CO., Dallas, has been named distributor of dial indicating pressure gauges manufactured by the U.S. Gauge division of American Machine & Metals, Inc. Whitson Engineering handles sales of instruments, controls, and allied engineering products.

C. C. COUSINS, Borneo Co., Ltd., London, has become secretary-treasurer and a director of Alberta Oil Tool Co., Ltd., Edmonton. Borneo recently purchased a major interest in the Canadian company, which will begin manufacturing precision oilfield fittings.

LEGAL NOTICE

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233)
SHOWING THE OWNERSHIP MANAGEMENT, AND CIRCULATION

Of Petroleum Week published weekly at Chicago, Illinois for October 1, 1958.

1. The names and addresses of the publisher, editor, and managing editor are: Published by McGraw-Hill Publishing Company, Inc., 330 West 42nd Street, New York 36, N. Y.; Editor, LeRoy Menzing, 330 West 42nd Street, New York 36, N. Y.; Managing Editor, Richard Machol, 330 West 42nd Street, New York 36, N. Y.

2. The owner is McGraw-Hill Publishing Company, Inc., 330 West 42nd St., New York 36, N. Y. Stockholders holding 1% or more of stock are Donald C. McGraw & Willard T. Chevalier, Trustees under Indenture of Trust m/b James H. McGraw, dated 1/14/21 as modified; Donald C. McGraw & Harold W. McGraw, Trustees under an Indenture of Trust m/b James H. McGraw, dated 7/1/37 as amended; Donald C. McGraw, individually; Harold W. McGraw, individually; Elizabeth M. Webster, c/o Donald C. McGraw (all of 330 West 42nd St., New York 36, N. Y.); Mildred W. McGraw, Madison, New Jersey; Grace W. Mehren, 536 Arenas St., La Jolla, Calif.; Affiliated Fund, Inc., 63 Wall St., New York, N. Y.; Genoy & Co., P.O. Box 491, Church St. Station, New York, N. Y.; Touchstone & Co., c/o Wellington Fund, Inc., Claymont, Delaware.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustee, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was 40,918.

McGRAW-HILL PUBLISHING COMPANY, INC.
By John J. Cooke, Secretary

Sworn to and subscribe before me this 8th day of September, 1958.

[SEAL] JANET A. HARTWICK.
(My Commission expires March 30, 1959)

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Must have operating and administrative experience. Chemical or Petroleum engineering background helpful. All replies confidential, salary open. West coast refinery.

P-8948 PETROLEUM WEEK
1125 W. 6th St., Los Angeles 17, Calif.

PETROLEUM MARKETING SALES EXECUTIVE

Expanding oil company. Position requires experience sales management, sales promotion and direct sales. Experience in southeast United States preferable. Experience in south a must. Send background resume with photograph. All information confidential.

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600,000 FT. 8" PIPE

Wt. 28# to the ft. Lapweld plain end beveled for welding 20' or 40' length No. 1 grade. F.O.B. cars.

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Engineers and Contractors for the Petroleum and Chemical Industries

BUSINESS OPPORTUNITIES

Use this Classified Advertising Section for bringing business needs or opportunities to the attention of men associated in administrative, executive, management, sales and responsible technical, engineering and operating capacities within the oil industry.

PETROLEUM WEEK

Depletion Must Be Defended

THE FOES OF PERCENTAGE DEPLETION already are pressing their attack for elimination of, or at least a substantial reduction in, the income tax deduction permitted oil and gas producers.

Of the 31 senators who voted to cut percentage depletion in August, 13 are seeking reelection in November. Those senators, among others, charge that oil and gas producers are the beneficiaries of a "27.5% tax loophole that brings them windfall profits."

Simple arithmetic shows that the depletion provision doesn't amount to 27.5%. Since the maximum deduction permitted is limited to 50% of net income, the effective depletion deduction amounts to an average of about 23%, according to industry tax experts.

OIL PRODUCERS MUST COMBAT DEPLETION'S OPPONENTS if they are to continue in business—and if the nation is to have oil reserves. Percentage depletion has withstood at least seven detailed investigations in the past 25 years, yet it is one of the most misunderstood "issues"— deliberately or otherwise—in the nation.

Producers have a simple, understandable story to tell. For, in its application, percentage depletion is identical to the depreciation charge permitted to all business enterprises. It is simply an annual accounting charge supposedly equal to the reduction in value of capital (oil and gas in the ground) due to its destruction or disappearance. It is similar to the annual wear and tear on a machine, for example, covered by depreciation.

The life of a machine can be computed and the cost of a replacement can be ascertained exactly. But oil producers never know if they will find another barrel, and there is no way to compute the cost in advance if it is found.

Oil men have to get out and present the facts to the public—the real beneficiaries of percentage depletion.

Now Is the Time to Speak Up

OIL PROGRESS WEEK IS HERE AGAIN, and it creates mixed emotions for many oil men.

Some may feel that it doesn't accomplish much. Others feel reluctant to participate because it might appear that the industry is simply indulging in a week of self-praise. Still others adopt the easy course of letting John do it.

But bear this point in mind: The industry needs to tell its story to the public. Until a better way is devised, Oil Progress Week deserves your active support in telling that story. The public, as well as the industry itself, will benefit.

"FORECAST OF THE FUTURE"

To forecast the present and future productivity of a well requires the solid foundation which is provided by oil well cementing.

For nearly half a century, Halliburton Oil Well Cementing Services—through progress, research and experience—has made available to oilmen in every corner of the world, the tools, equipment and products necessary to help establish the beginning and future existence of thousands of producing wells.

With only one basic philosophy . . . to serve the well owner in his every need . . . Halliburton will continue to aid in forecasting the requirements necessary for the future growth of the oil industry through its proven pattern of progress and research.

HALLIBURTON OIL WELL CEMENTING COMPANY

DUNCAN, OKLAHOMA

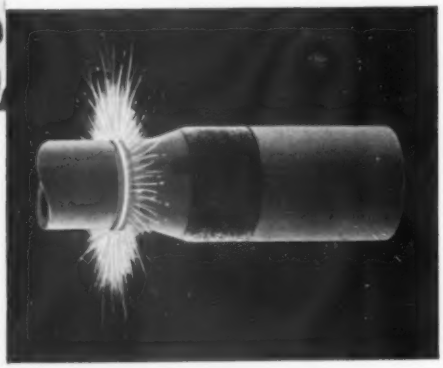
FLASH-WELD...

the most dependable and most economical drillstem you can run ...anywhere!

A new heat treating process, *developed by Hughes,* has more than doubled the tension-impact strength of "Flash-Weld" tool joint-to-pipe connections... now makes this *always superior drillstem* better than ever.

Ask the Hughes man about this new, improved Hughes "Flash-Weld" construction. He can also help you to select the type of drillstem best suited to your drilling program. And he will be glad to advise you regarding field hardfacing . . . where and when needed... and how to get the maximum service out of your drill string.

Be sure your next drill string is unitized with Hughes hardfaced "Flash-Weld" tool joints for *safer, more dependable,* and *more economical* operation.



Developers of "Flash-Weld", "Seal-Grip" and Counterbore Weld Tool Joints